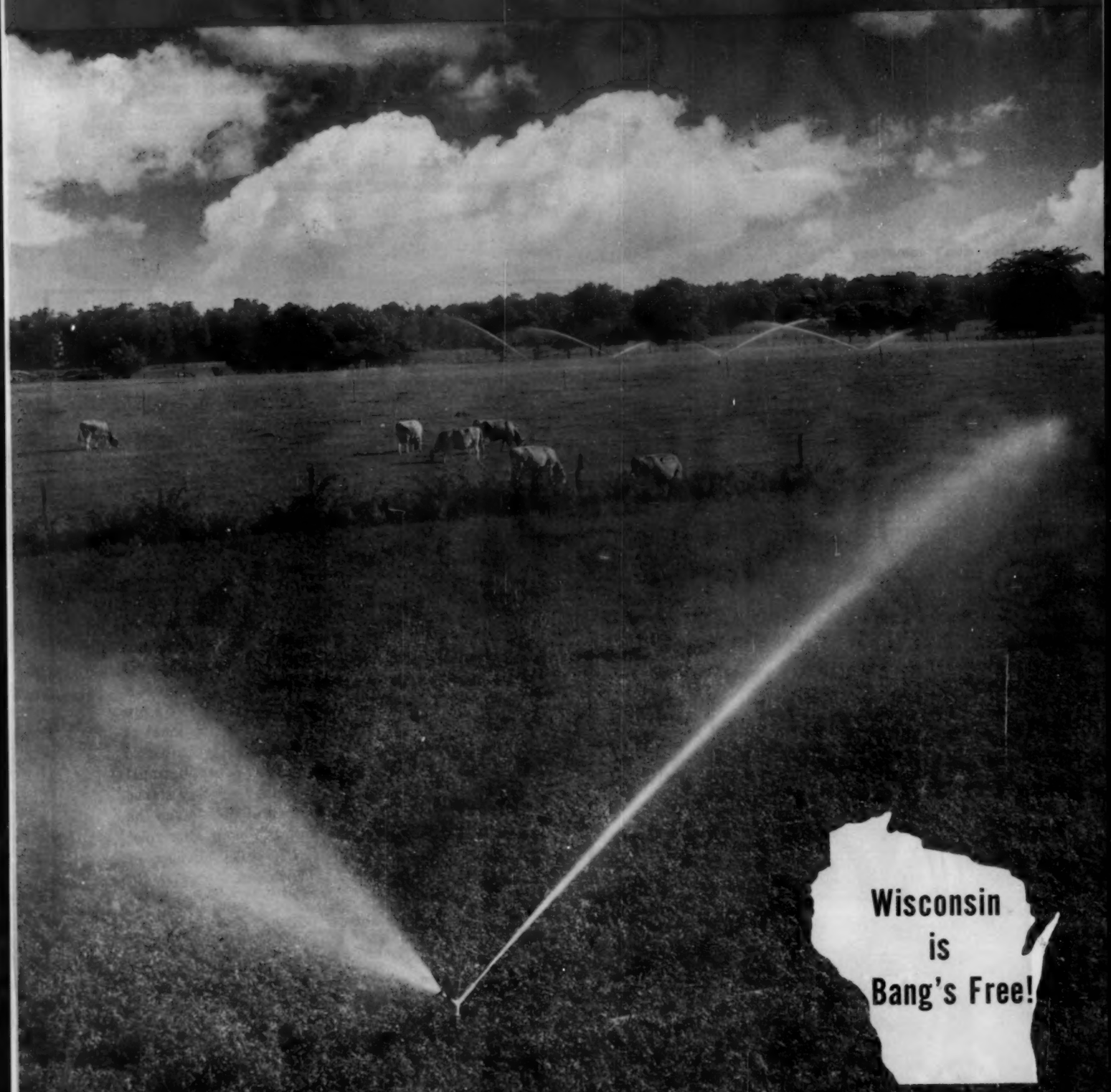
HOARD'S DAIRYMAN

JULY 10, 1956



THE NATIONAL DAIRY FARM MAGAZINE

They don't come any tougher than this Chevy pickup—the way it can take it keeps down upkeep costs!

Here's the baby for rugged heavy-duty work—rated up to 32,000 lbs. G.V.W.; 50,000 lbs. G.C.W.!

New middleweights are rated up to 19,500 lbs. G.V.W. Notice the modern panoramic windshield and concealed Safety Steps!

For modern farming use today's most modern trucks!

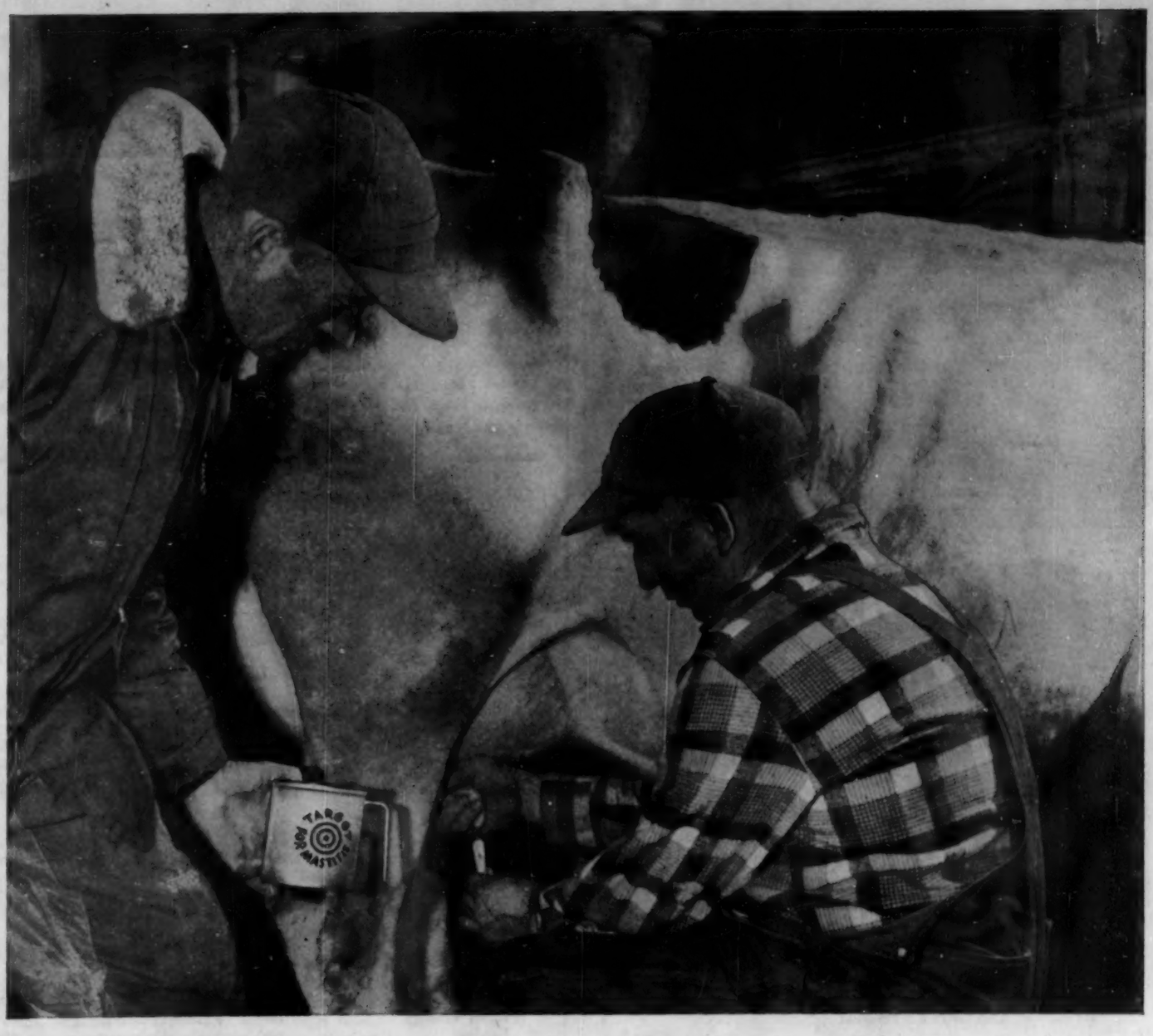
New Chevrolet trucks bring you far-ahead features that'll save hours, dollars and driving effort on your farm hauling jobs!

A glance tells you they're most modern in styling, which is a sure indication they're most modern all the way through! Start with power: you can get a short-stroke V8 in any model you choose. V8's are standard in L.C.F.'s and heavyweights, optional at extra cost in other models. And with Hydra-Matic and new Powermatic (both extra-cost options) there's an automatic transmission for every series. Tubeless tires are standard on all models—even the giant Triple-Torque tandems! See your Chevrolet dealer before you buy. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

CHEVROLET TASK·FORCE TRUCKS

Anything *less* is an old-fashioned truck!

CHEVROLET



"Our Veterinarian suggested we use TARGOT® for Mastitis..."

MASTITIS OINTMENT

Reports **JULIUS WALETZKO,** PARTNER
WALETZKO DAIRY FARM, WILLOW RIVER, MINN.

"Our veterinarian suggested we use TARGOT for mastitis. We tried it and it worked with complete success in one application. Since then our vet has been more welcome here than ever before and TARGOT has become a staple in our farm medicine cabinet.

"Not only has TARGOT worked faster than any other preparation we have used but it also seems to slow down the recurrence of mastitis. We have fewer cases and less often than ever before.

"A cow with mastitis is a complete loss as far as income is concerned. Therefore, the quicker mastitis is checked the sooner our income is returned to normal. We've found that one application of TARGOT will often clear up a case of mastitis."

TARGOT is stronger — but gentle. It contains not one or two but *four* powerful antibiotics to do a fast, thorough job — AUREOMYCIN® Chlortetracycline, Penicillin, Neomycin and Dihydrostreptomycin.

Check your strip cup at *every* milking — and at the first sign of abnormal milk infuse TARGOT. Available from your veterinarian, druggist or feed dealer.

Julius and Thomas Waletzko are partners in their modern, well-managed dairy farm operation at Willow River, Minn. They farm 640 acres, maintain the barn and milk house in immaculate condition and employ approved herd management practices with their herd of 35 high-producing cows.

Always ask for TARGOT by name... *Stronger but gentle*

Lederle LEDERLE LABORATORIES DIVISION | *AMERICAN CYANAMID COMPANY* | PEARL RIVER, NEW YORK

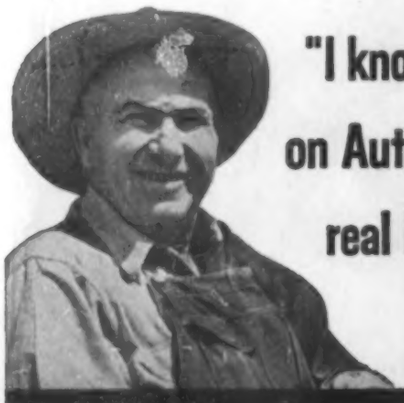
AUTO-LITE TIPS
ON FARM ENGINE MAINTENANCE

GOOD SPARK PLUG INSPECTION PAYS OFF—Spark plugs should be removed, cleaned, and inspected at regular intervals.

When removing, check the seat gasket to see if plugs were tightened properly. Look for corroded gaskets which indicate poor contact with head. Carefully inspect the firing end of each plug. If it is covered with a soft, fluffy, dry, black deposit, the fuel mixture is probably too rich. Possible cause: a defective choke or too high a setting of the carburetor float.

If the firing end of the spark plug is covered with a wet, shiny, black carbon deposit, engine oil is getting up into the combustion chamber. Possible cause: worn intake valve guides or bad rings.

Examination of the firing end of a spark plug may save you many hours of "down-time" and costly repair bills.



"I know I can depend on Auto-Lite plugs for real lugging power!"

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Auto-Lite Transport Spark Plugs are designed especially to give better service in heavy-duty jobs. Get the extra assurance of full power with these exclusive ignition-engineered features:

1. **HEAVIER INSULATOR** gives greater resistance to high-voltage leakage and breakage.
2. **INSULATOR TIP** ignition-engineered for longer clean-plug life—safeguards performance.
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There's an Auto-Lite Spark Plug for every engine on your farm. Be sure you get full-power performance from *all* your equipment . . . go Auto-Lite all the way!

AUTO-LITE spark plugs

Auto-Lite manufactures over 100 products, including Spark Plugs, Batteries, Wire and Cable, and Automotive Electrical Systems . . . sold throughout the United States and Canada.

HOARD'S DAIRYMAN
The National Dairy Farm Magazine

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In This Issue . . . .

Vol. 101, No. 13
July 10, 1956

Title Page

Wisconsin makes Bang's history! 667

Features

Is your silo safe? . . . . . *T. L. Willrich* 669
Easier renovation with less disking . . . *M. A. Sprague* 670
A land use program for 500 head . . . . . *D. Elmore* 671
Are you planning to build or remodel? *F. Duffee and L. Zeman* 672
Plant shrubs to beautify your home . . *H. R. Kemmerer* 674
How to select a farm sprayer . . . . . *W. Bowers* 675
What land is profitable to irrigate? . . . . *H. A. Kerr* 676
Comfort with air conditioning . . . . . *M. Speers* 694

Note: We regret that a delay in obtaining photographs prevented our using in this issue the scheduled story on Helen Hyland's record-breaking Guernsey herd.

Short Articles

Have farmers' needs been met? *H. Cook and H. Halvorson* 678
Missouri host to Jersey breeders 686
D.H.I.A. pioneer honored . . . . . *E. O. Haroldsen* 688
Fruit cup combinations . . . . . *J. O. Passmore* 697
Keep insects out of stored grain . . . . *H. Gunderson* 699
Holstein Convention quiet 701

Regular Departments

Washington Dairygrams . 661
Opinions and Brickbats . 662
Farm Flashes 668
Feeding 680
Editorials 682
Questions from Our Readers 683
Dairy Digest 691
Handy Hints 692
Poultry 693
Dairy Farm Home . . 694
Patterns 695
Young Dairymen . . . 698
Artificial Breeding . . 700
Swine 706
Veterinary 707

COVER PICTURE

If it's dry in your area this July 10, our cover picture should be all the more appealing. It was taken on the farm of Ralph Helt of Rochester, Indiana. Mr. Helt and his two sons draw their irrigation water from the Tippecanoe River. They use it on pastures, hay crops, soybeans, corn; in fact, on about every field on the farm.

The first time photographer Chester Allen visited the farm to secure pictures, the irrigation system was being used on a mature oats field to save the new growth of alfalfa.

Please excuse the Wisconsin map and story lead being imposed on an Indiana dairy scene. The cover was on the way to press when the Wisconsin Bang's-free story broke. When Indiana becomes Bang's-free perhaps we can reverse the cover picture scene and the story lead inset.

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The receipt of Hoard's Dairyman is notification that money on subscription has been received. The label on paper will show date to which subscription is paid. Changes of address should reach us three weeks in advance. Include old address.

Unwholesome, immoral and questionable medical advertising is excluded. A sincere effort is made to carry advertising of only reliable people. We will always take it as a favor to be notified promptly whenever any advertiser's dealings with the subscribers are not in good faith or evidence a lack of business honor. Advertisers recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

Hoard's Dairyman is published on the 10th and 25th of each month. Advertising copy for the 10th of the month issue must be received before the 15th of the preceding month. For the 25th of the month issue, copy must be received by the 1st of that month.

Washington Dairygrams

TO QUALIFY FOR 1956 ACREAGE RESERVE PROGRAM UNDER SOIL BANK THE DESIGNATED ACREAGE MUST (1) BE REPRESENTATIVE OF THE LAND USED FOR THE CROP, (2) RESULT IN THE HARVESTING OF AN ACREAGE OF THE BASIC CROP LESS THAN THE FARM ALLOTMENT OR CORN BASE ACREAGE, (3) NOT BE GRAZED, CUT FOR HAY, OR CROPPED FOR THE ENTIRE 1956 CALENDAR YEAR. NOXIOUS WEEDS MUST BE CONTROLLED.

MILK FLOW TAPERS OFF AS MAY PRODUCTON IS ONLY 1 PER CENT OVER A YEAR AGO. IN EARLIER MONTHS OF 1956 MILK FLOW WAS RUNNING ABOUT 5 PER CENT HIGHER. PRODUCTION DURING FIRST FIVE MONTHS WAS 2.2 BILLION POUNDS ABOVE LAST YEAR.

C.C.C. PURCHASES IN MAY WERE CLOSE TO LAST YEAR'S LEVEL. GOVERNMENT BOUGHT 29 MILLION POUNDS BUTTER, 19 MILLION POUNDS CHEESE, 85 MILLION OF POWDER.

SITE FOR ANIMAL DISEASE LABORATORY UP IN THE AIR AS SENATE OPPOSES WASHINGTON, D. C., AREA. COMMITTEE APPOINTED BY SECRETARY OF AGRICULTURE TO RECOMMEND NEW SITE.

GOVERNMENT NEEDS MORE PRICE SUPPORT FUNDS. CONGRESS CONSIDERING LEGISLATION INCREASING BORROWING AUTHORIZATION OF C.C.C. FROM PRESENT LIMIT OF $12 BILLION UP TO $14 BILLION.

PRICES RECEIVED BY FARMERS INCREASED 3 PER CENT FROM MID-APRIL TO MID-MAY. PARITY RATIO WENT UP TWO POINTS, TO 85.

★ ★ ★

In YOUR next issue!

IS YOUR TEST LOW THIS MONTH? . . . While hot weather always brings a lower test, we can prevent some of the drop by the way we handle the milk on the farm. This article tells how.

COME EVENING, COME MORNING . . . The riddle of the tester. A humorous report from an Ohio D.H.I.A. supervisor as he tries to tell a little boy about his work. Dairy farmers will enjoy these opinions from a man on the other side of the milk scale.

HAUL PASTURES OR TURN COWS OUT? . . . Ethan Winters and Stanley Oswalt, two Michigan dairymen, debate the issue of whether it is best to haul pasture to the herd or let the cows do all the work. Their opinions are based on firsthand personal experience.

WHAT TEMPERATURE FOR YOUR ENGINE? . . . Many believe that a cool-running engine lasts longer and gives better performance. This is not the case. The engineer in charge of tractor testing at the University of Nebraska tells how to get more out of your fuel, less engine wear, and smoother performance by keeping the engine temperature in the right range.

AND MANY MORE . . .

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Fort Atkinson, Wisconsin

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☐ Renewal

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(CANADIAN: 1 Year—$2.00 — FOREIGN: 1 Year—$3.00)

one spraying of

DIAZINON

kills flies for 4-6 weeks

FLIES CAN COST YOU FROM 8 TO 20 PER CENT OF YOUR MILK PRODUCTION, say authorities. This is a costly dollar loss when effective fly control costs only a few cents per day with DIAZINON.

No longer does fly control mean spraying dairy barns or milking parlors once a day or once a week. *One residual spraying of* DIAZINON *kills flies for 4-6 weeks.* This means just two or three sprayings of DIAZINON per season will control profit-destroying flies in dairy barns and other farm buildings. Remember, however, that good sanitation is a prime consideration in any fly control program.

DIAZINON is approved for use in dairy barns. Exhaustive tests have shown that proper residual applications do not result in milk contamination. DIAZINON is relatively safe and simple to use. *Cover all livestock feed, and drinking fountains. Remove animals from building during spraying operation. Keep them out four hours. Do not spray animals.* DIAZINON is available as GEIGY DIAZINON 25W (25% wettable powder) and GEIGY DIAZINON 25E (25% emulsifiable solution).

ALSO AVAILABLE AS GRANULAR BAIT... **DIAZINON** *Fly Killer*

Low-cost DIAZINON Fly Killer bait begins to kill flies in about 10 minutes, keeps on killing until consumed. Four ounces treats about 4,000 square feet of floor area.

To control flies in calf or bull pens, clean pens thoroughly, then scatter DIAZINON bait from handy shaker-type canister on pen floor before putting in new bedding.

To control flies in poultry houses sprinkle DIAZINON Fly Killer in alleys between cages, on window sills, and at building entrances. (Keep baits away from children, pets, and livestock.) For treating manure cones, use DIAZINON liquid spray (coarse spray so there is no mist —or use sprinkling can) once per week.

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Division of Geigy Chemical Corporation
89 Barclay Street • New York 8, N.Y.

Memo to Dairy Farmers

You can win up to $30,000 from Pillsbury Mills for your favorite recipe using real butter!

• • •

Pillsbury's famous Grand National Bake-Off Contest offers a special **butter** prize this year. It's an **extra** award of $5,000 for the best butter recipe sent in by a dairy farmer family participating in the American Dairy Association set aside. Two ingredients in the recipe must be **real butter** and Pillsbury's Best Flour.

• • •

This prize is in addition to any other award the butter recipe might win in the main competition, so — (if it receives the Grand National award, too, the blue-ribbon butter cook could walk off with $25,000 more, or a total of $30,000).

• • •

The recipe can be a simple one you've just invented, or one that has been in the family for years. It needn't be fancy or elaborate. One year a homemaker won $25,000 just for putting sesame seeds in her pie crust.

• • •

If the family participates in the American Dairy Association set aside, set your cap for this special $5,000 award. Remember, real butter and Pillsbury's Best Flour are your recipe needs. And your recipe may be good enough to win up to $25,000 more.

• • •

Official Pillsbury 8th Grand National entry blanks are available three ways: 1) on tear-off pads at your food store, 2) in all specially marked Pillsbury's Best 5 and 10 lb. flour sacks, and 3) by writing to Ann Pillsbury, box 211, Minneapolis 2, Minnesota.

• • •

Get your entry blank and enter your best butter recipe today. Contest closes October 1.

Your Road to Sales

American Dairy Association

20 North Wacker Drive

Chicago 6, Illinois

Opinions, Brickbats, Bouquets

These columns are open to the readers of Hoard's Dairyman for the expression of their opinion on any subject, whether radical or conservative, destructive or constructive, wise or foolish, critical or commendatory. Hoard's Dairyman assumes no responsibility for opinions expressed.

No one else will do it

Whom do we farmers expect to solve our income problem? Not the consumers: They are enjoying cheap food. Surely, not the processors: They are enjoying high profits.

Probably not the government either, for consumers outnumber farmers, and all the plans that are being considered in government seem designed to help farmers just enough to keep them producing cheap food. So, if we hope to achieve economic equality with the rest of the country, it looks as though we will have to help ourselves.

We have the tools to do the job, but we must have the patience to sow the seed and wait for the harvest. A large percentage of dairy farmers belong to one or another of the marketing co-operatives and about a half million of these members are affiliated with the National Milk Producers Federation.

Now, since it seems unlikely that the federal government will finance a self-help plan, it is time farmers set about doing it.

First, we need to induce substantially all milk producers to support our organizations. Then we will need to increase the checkoff of considerable amount, possibly an extra 10 cents per hundred, to build up a fund to be used in disposing of our own surplus.

Once this is done, and with the checkoff continued, we will be in a position to enter into effective collective bargaining, which is the only way in which we will ever get a fair share of the consumer's dollar. The increased checkoff would be a small burden compared to what we have paid in the last two years.

If farmers cannot cooperate enough to accomplish such a program, we don't deserve any better treatment than we are getting.

Wisconsin FRED W. BROMLEY

What I would like as a tenant farmer

I have been tenant farming for about five years now and have yet to come across a man who will keep his word without having to have everything written down, black and white. His every word, I mean.

In other words, when he says "every other Sunday off," to give every other Sunday off. When he says "there's not much to do during winter and free time could be spent hunting, etc," to do such. When he says "we're always through early, about 6 or so," to be through then, not his usual 7 or 7:30. If the barn work lasts until 7 or so, say so right away.

Now this is my idea of a good farm job and boss. Hours about 5 a. m. to 6 p. m.; fair wages; when there is no pressing work, time off for such things as hunting, etc.; holidays off, every other Sunday off, and to be a pal to the boss.

In return for these, I'm sure I could please anyone, such as extra working hours when weather and crops call for it. Also, to be relied upon when the boss has a crisis or needs to be away. These and lots of other things too numerous to mention.

We have a fine family of three, and neither smoke nor drink. We also are church-going people and would really like to see the day we could work as tenants and live as a part of the family. We appreciate any small favors and I'm sure any tenant farmer with common sense does, too.

Well, we hope this gets printed as I'm sure there are a lot of others like us. If they could just keep this in mind, "Do unto others as you would have them do unto you." I'm sure we would all be pleased.

Wisconsin W. K.

What is your record?

Who has milked cows the most years without missing a milking?

This discussion arose one night when my tester came and found me dragging around with quinsy. Of course, the cows have to be milked whether or not you feel like it. And the long record holder would have to be a fairly healthy "critter" and a man with a large amount of determination, also.

The longest record of uninterrupted milkings, come sickness or health, Sundays or Holidays, year in and year out, was only about seven years for me. But, I'll venture among your readers you will find some records of 15 or 20 years.

Maybe you have "done" this subject before. If so, what were your findings? If not, I'll be watching your O. B. and B. column.

New York HAROLD POTTER

Cattle guard doesn't work

The concrete cattle guard that appeared in your April 10 issue sounded so good we built two.

Tell Mr. Oran Standley that Texas cattle may respect them but Indiana dairy cattle just walk out over them.

I would suggest the top of the rail be 2 inches wide instead of 4 inches, or a 1¼-inch pipe be laid on top of each rail.

They are wonderful only they don't work.

Indiana J. Dick Newman

"Did pretty good last year. Made almost as much as our hired hand!"

What will substitutes do?

Is the human race eating the right kind of foods? There must be a reason for so many new kinds of sicknesses.

A large rennet company experimented with calves. (Rennet for making cheese is made from a calf's stomach.) One hundred calves were fed substitutes (no milk) and 100 calves were fed only milk. The stomachs from the substitute-fed calves were black and only produced about one-third the rennet that the milk-fed calves produced, and the latters' stomachs looked healthier.

Wisconsin EARL M. SPENGLER

Like youth page

Would like to say that we make good use of the Young Dairymen's page. There are four children having 4-H dairy projects in our family; the articles are clipped and saved for their dairy notebooks.

Wisconsin. MRS. WILLARD GROVE

Wheat gets the cream

Here's my opinion on 90 per cent of parity price supports. Let's compare the income per hour of a wheat farmer near Colfax, Wash., and a dairy farmer in Minnesota or Wisconsin.

An acre of wheat can be grown and harvested with three hours of labor. With latest fertilizing methods, my western friend gets a 70-bushel-per-acre yield. At $2.10 per bushel, this brought him $150 per acre. Of this return, however, approximately one-third was the result of government subsidy.

If you assume that one-half of the wheat value per acre is returned for labor, this means a per-hour return of $25 of which at least $8 is federal subsidy. The land is being depleted.

On the family-sized dairy farm 200,000 pounds of milk are produced at $3.50 per hundred bringing $7,000 total. If we assumed that half of this gross was returned for labor, and that the dairyman worked 60 hours per week for a total of 3,120 hours per year, then the $3,500 makes a return of $1.10 per hour at 80 per cent of parity. Ninety per cent of parity would raise the wage rate to $1.22 per hour. Dairy farming saves the soil.

Actually, of course, I return too much to labor in the above example because there is normally about 70 per cent of non-labor expense on most dairy farms. The wage rate is actually closer to 70 cents per hour and would be boosted to 80 cents per hour at 90 per cent of parity.

When your congressman votes 90 per cent of parity, he is voting $25 per hour for wheat farmers and 80 cents to $1.22 per hour for the dairy farmer.

How are we to have soil conservation with this type of legislative competition? You can see how "simple" the farm program is.

Wisconsin B. W. EKE

Need practical control

If we are to promote the recovery and insure the future welfare of the traditional American farm, the following provisions in some form or other must be included in any farm legislation:

1. 100 per cent of parity for the first $1,000 marketed providing the major part of the annual income

is derived from farming; otherwise, 90 per cent.

90 per cent of parity for the first $5,000 worth of products marketed.

85 per cent of parity for the next $10,000 worth of products marketed.

80 per cent of parity for the next $10,000 worth of products marketed.

75 per cent of parity for any amount marketed over $25,000.

2. Production control: Withholding of acres from production (soil bank, etc.) on a graduated scale by allotments. Example: Exempt or optional the first 100 acres of cropland. For each additional 50 to 100 acres in cropland gradually increase the percentage to be withheld along lines similar to our income tax.

3. Dairy products and other perishable products that need support to be supported by direct incentive payments along the same lines as No. 1 above. Controls along same lines as No. 2 above.

4. Increase our activities in research for new uses of farm products and increase present markets.

Any farm income incentive legislation without a practical control has proven to be the wrong answer. A small farm cannot cut down on acreage and maintain a living income.

Minnesota HELMER T. THOMPSON

Kansas good will train

After several years of drought here in Kansas, I think it might be a good idea for some of you folks in more fortunate areas to start a good will train out this way. Don't put any cows in it until the drought is broken, however. Just send us your surplus cotton goods, corn, hay, butter, peanut butter, cigars. And since it is so "durn" dry, we would enjoy a few drums of your "Blue Ribbon" brew.

If it doesn't rain next month, it will be root, hog, root or die.

Kansas R. H. WINGO

Merely social groups?

My father before me and I have been representative of dairy farming for some 35 years here in the state of New Jersey and I want to heartily congratulate you on your editorial about farm organizations failing to reconcile differences.

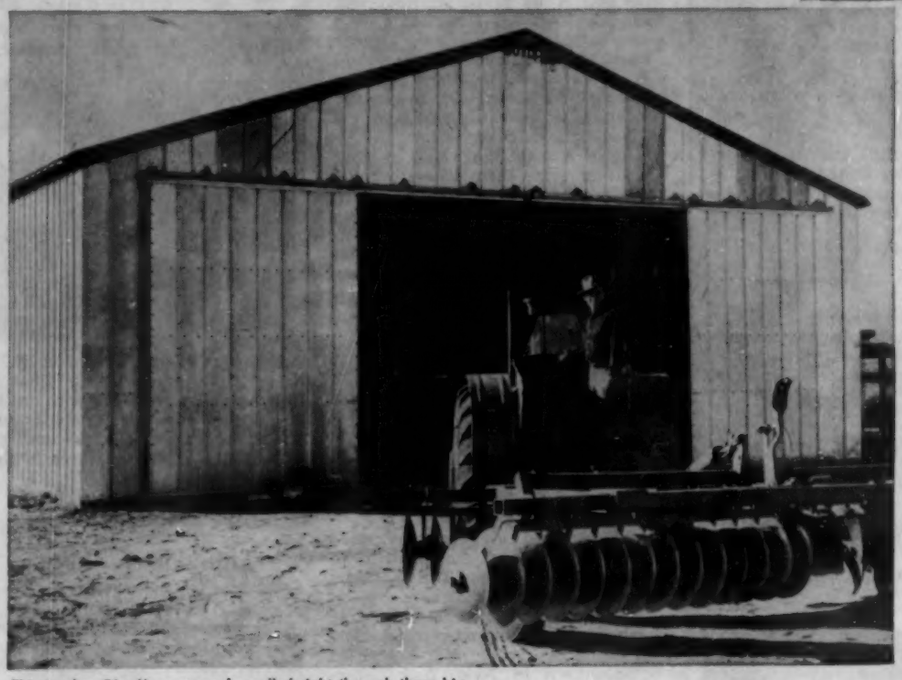
These farm organizations started and grew with farmers interests in mind. Unfortunately, the situation is not the same today. They have fast become social groups with a nice fat salary for, in many cases, a man who has no need for the salary at all and who has never been hurt financially to the point where he would advise taking proper action to return the farmer the full amount for his product that he is so deeply in need of and entitled to.

I noticed in your March 25 issue that people representative of these organizations have the gall to be critical of your editorial. Will these people please examine the record — dairy farmers in New Jersey and all over the United States are being paid prices for their products comparable to prices paid producers in the year 1938, some 18 years ago, and yet these same farmers are buying products and paying 1956 prices for everything they need in the operation of their business, higher taxes, la-

(Continued on next page)

"I make my money farming, not fixing things up"

says F. M. Greathouse, Garden City, Kansas



This tandem Disc Harrow can be pulled right through those big doors without any dismantling—a great time and labor saver.

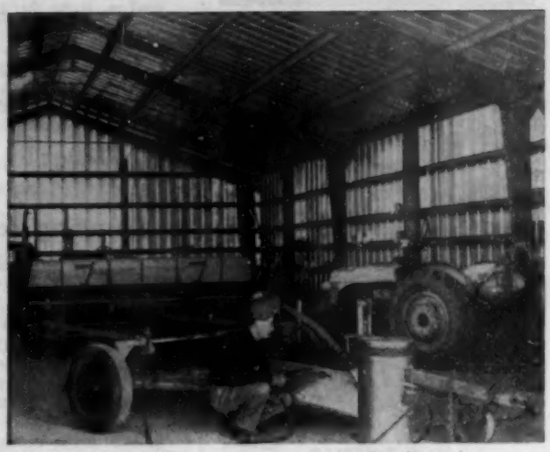
"Steel buildings don't need maintenance— no painting, no patching, nothing to worry about."

Mr. Greathouse chose his 36′ x 60′ Steel Building for two practical reasons—economy and convenience. It's economical in that the initial cost is moderate, and, most important, it requires virtually no upkeep. Secondly, he has so much storage space for grain that he doesn't have grain elevator fees to pay at harvest time.

The convenience and versatility of Mr. Greathouse's Steel Building have shown up in many ways. In addition to grain storage, he uses it for machinery storage and as a repair shop. Furthermore, since he buys calves to raise each year, he has found he can modify his Steel Building easily and inexpensively to house the calves at one end.

Mr. Greathouse expects his Steel Building to last through his lifetime. "It is ideal for my purposes," he says, "and I'd recommend a Steel Building to any farmer, anywhere."

Factory-Built Steel Buildings, fabricated from USS Galvanized Steel Sheets with USS Structural Steel framework, can do a great deal toward making *your* farm a more practical, better paying investment. For the complete rundown on all the advantages of Factory-Built Steel Buildings, return the attached coupon. No obligation, of course.



Using the Steel Building as a repair area, Mr. Greathouse does some welding on a ditching machine.

WANT TO MODERNIZE YOUR FARM FOR A BETTER INCOME?

SEND THIS COUPON TODAY

Agricultural Extension
United States Steel Corporation
Room 5406, 525 William Penn Place
Pittsburgh 30, Pa.

I am interested in steel buildings for the following:

☐ dairy barns ☐ hay storage ☐ machinery storage
☐ cattle shelters ☐ grain storage ☐ poultry houses
☐ other _____

Approximate size or capacity _____

☐ Please have a Steel Building representative call on me with further information.

Send information to:

Name .....

Address ..... Town .....

County ..... State .....

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UNITED STATES STEEL

Money Saving Mastitis Treatment

Pioneer Firm Introduces New Four-in-One Syringe

G. W. Hanford

During our 1st hundred and ten years serving dairymen, we have seen many changes. But not one has ever been quite so exciting as the introduction of the new Selecta multi-shot syringe for the treatment of Mastitis.

It is, by all odds, the greatest development since Penicillin!

Selecta is actually four syringes in one, and the low price — less than any four single doses — is only the first place you save! With Selecta, ALL the medication gets into the udder where it can do the job!

Selecta saves time! Being 4-in-1 and so handy, all other applicators seem "left-hand" by comparison.

Choose from two formulae: One has 2,000,000 units of Penicillin plus Streptomycin, two Sulfas, Papain and Cobalt. The other has 600,000 Penicillin units plus Streptomycin, two Sulfas and Papain.

Selecta doses are mechanically metered. You can apply more than one shot in 6cc multiples. The choice is yours!

For better, faster and more economical Mastitis treatment, see and try Selecta now!

G. C. HANFORD MFG. CO.
SYRACUSE, NEW YORK

bor costs, etc. What a ridiculous situation!

I burn with indignation when I see so many beautiful herds sold at sacrifice prices because the returns were not enough for the farmer to stay in business.

And, what is the favorite retort from many farm and agricultural leaders — the farmer should be more efficient. Yet we make slaves of our wives and children; we rob the soil of its proper fertility and let our buildings deteriorate We are carpenters, plumbers, electricians, and mechanics and we should be more efficient! Show me one farmer who doesn't try to get the most out of his cattle and land and I'll show you 99 who do.

Take a good long look at that local or state farm leader who is supposedly representing the dairy farmer and his interests. Keep up the good work Hoard's Dairyman! Disturb the monthly and annual luncheons of these social organizations and possibly something constructive will be done for the dairymen of the United States. God Bless you in your endeavor to cope with this highly critical problem.

New Jersey — BASIL NECOESCU

"Showdown in New York"

Please find my check enclosed for a three-year subscription to your valuable paper. This is a new subscription.

I compliment you on your fine series of articles concerning market orders. Article No. 6, entitled "Showdown in New York,'" certainly was a model of objectivity and written in such a way that any farmer in this milkshed could understand it.

I have been tempted for some time to subscribe. That article did it, and I'm looking forward to obtaining reprints on the whole series.

New York — HERBERT KLING

Dumping can backfire

You are to be highly complimented on this very outstanding column. In fact, it is unsurpassed by any other "mailbag" column.

Ever so often this column seems to carry the presumption of your readers that it would be a wise plan if all the farmers in the nation would dump their milk in the gutter for a certain period of time. Besides some of the more apparent difficulties this plan would present in actually executing it, the final result might not be what we expect.

I am sure you all remember the drastic reduction in coal sales caused by the strikes which John L. Lewis called on April 1, 1946. The people soon found that coal was not always to be gotten when needed, so they switched to oil.

Do we want something similar to happen to the dairy industry? No. Let history be our monitor in making such plans. Surely, we can find better ways of getting rid of our surpluses. The nation lives on our milk and the dumping appears to be a crude method of achieving our aims.

Let us use our intelligence and work on a solution that will not entail such extravagant waste. Besides being dairymen, we are also members of a society which exacts from each of us certain obligations.

New Jersey — FRANK FROELICHER

Pleased with plans

Enclosed is a check for $1.40. Please send me the milk house plan No. 75254.

May I take this opportunity to tell you how pleased I am with your magazine and the excellent service you give subscribers. I am well pleased with the plans of this particular milk house.

Pennsylvania — JOSEPH ZOSH

40-year-old milk house

Here is a snapshot of a milk house of the early teens. Though isolated and surrounded with brush, it is still in good condition. Inside a boxed-in spring holds four to five cans in real cold water in the hottest weather.

Connecticut — ALBERT HIPP

Enjoying judging contest

We surely did appreciate seeing the grading scores and reasons thereof for the Hoard's Dairyman National Cow Judging contest which appeared in the May 10 issue.

Although we were not prize winners or even honorable mentions, it was exhilarating to see just how well we did both as a family and as individuals.

We were also most interested in reading the judges' reasons for scoring as they did and found them helpful. Thank you for publishing the scores and reasons in detail. We hope to enter again next year.

There are 8 of us in the family, ranging in age from 10 to 41. On our family score card the Jersey breed was a consistent high scorer. Most of us scored lowest with Guernseys, while the Holstein class proved the most unpredictable.

We milk a herd of 21 Holsteins but always keep a few Jerseys because we like them.

We were wondering if there was a trend on the national level where one breed proved a persistently high scorer, and whether there was one which judged consistently low?

We wish you many more years of success as a magazine and a business. We know you have many friends.

Ohio — THE GEORGE W. PRICES

While no detailed tabulation was made, the scores indicated that the Jersey class was the most placeable, whereas the Guernsey and Holstein placings varied considerably. —Editors

"Delayed, doctored, diluted"

In the leaflet just received from the American Dairy Association, all producers of Grade A milk are urged to "use it," "think it," and "talk it," — "IT" meaning milk.

As a producer of Grade A milk from my Jersey herd, of course, we "use it" just as it comes from the cow, and we enjoy it that way.

Perhaps one reason why the public has to be bullied into drinking milk is because the product when it reaches the consumer is what should be called not Grade A, but Grade 3-D — delayed . . . doctored . . . diluted.

In the case of Guernsey and Jersey milk, a good part of the cream has been removed to be sold back to the consumer at a premium. Why does the public not wake up to the fact that it is being cheated?

As to the admonition "talk it," the thought that the public is receiving such wretched milk is always with me. Knowing what milk really is as the cows give it, and knowing what that milk becomes before reaching the consumer, makes me ashamed to play even an innocent part in such a fraudulent business.

I cannot, in honesty to my cows or myself, urge anyone to drink milk as it reaches the public today.

No. Carolina — SHELBY C. JACKSON

"Overcivilized" town

Why are the farmers and government officials crying about surpluses and overproduction when it is simply impossible to get a pint or a quart of raw milk—as it comes from the cow—for the pets?

Our cat refuses to drink pasteurized milk and insists on raw milk only, which I am unable to get in this overcivilized town. If all the pets could be fed on raw milk, there would be a big market for it right here.

What can be done about it?

New York — J. WILLIS

Go back to horses

Our surpluses are caused by modern, high-priced equipment and milking machines. Horse farming would take care of these surpluses, as well as high taxes. We make our own trouble.

Ohio — L. M.

Too much red tape

Any dairy farmer who wants a federal order does not know what he is getting into. It is like asking for a pair of handcuffs and expecting to work with them.

If you cannot run your own business and get what is coming to you, it is time to quit dairy farming. In spite of his big investment, the dairy farmer lets somebody set his price for him. It takes too much red tape to get a raise or increase in the price of our milk through a federal milk order.

I don't like this idea of running to Washington to get an increase in the price of milk.

Ohio — A. R. BEARD

Let's work for government

As long as American farmers own any real estate, livestock, or farm equipment, they will be denied a just wage for their labor and that of their wives and children, and they will have to slave and toil for the benefit of others.

Here is the solution for surpluses, prices, and so forth. American farmers own in their own right $160 billion in the above, all taxable. (Union workers own nothing.)

Have the government buy all farmers out; we to take their

mortgage, paying us 6 per cent. Farmers to run farms as before but for the U. S. government. All farms to have a bookkeeper with union wages and conditions. Farmers to get minimum scale of hourly wages. We to sell our products as usual.

When we get the checks take out our wages, expenses, taxes, etc. and what is left send rest to Washington. All farmers to have 40-hour week, all holidays, vacations, and fringe benefits same as the A.F. of L. and C.I.O.

Then the taxpayers will not have to pay for any more surpluses and handouts.

New Jersey — ERNEST BRAUER

Let Legion represent us

The first move for a sound, lasting economic structure is a better understanding and cooperation between farmer and laborer. We had better start thinking about a third party. For either farmer or laborer to start a party would be folly.

We have in the U. S. a powerful organization in which we all have a mutual interest. It has the proper background for a third party. The organization with plenty of horse sense is the American Legion.

We farmers better forget about 100 per cent parity. There is a difference between a fair price for our commodities and greed. Let us live and let live.

Wisconsin — ED HABERMEYER

No change in wages

I would like to express my feelings toward the dairyman who employs help.

I have been working for the same man for two years. He has had two raises in the price of milk, but the wages remain the same. Every day the cost of living is going up. How does he expect the workingman to live? And I have to buy my own milk and butter. I think something should be done.

Oregon — H. H.

Political advice

They are talking about a soil bank to help the farmer out,
And many new price supports to make up for the drought.
But I've a better program that would get every farmer's vote,
And it really is a dilly, so, politicians, please note.

They should give us all the money to buy the seed we need;
Then give us just a little more to help combat the weed.
The local politicians should come and help plant the crop,
And the state party leaders should see that prices do not drop.

The members of House and Senate should help get in the grain,
And the President in this new party could be in charge of rain.
There would be no milk inspector in my suggested new regime;
Instead would be a government man to keep the barns real clean.

We'd do without this income tax and send those men instead
To milk cows once a year for each and give the milkers a week in bed.
Now, with all the politicians out working and not in old D. C.,
There would be a lot less money spent, and a big fat surplus you see.

So, let's give the farmer a bonus each year of his life
And to be darn sure you're elected, make it payable to his WIFE!

Virginia — DOROTHY BOYLE

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With a Farm-O-Stat controlling your fan, fresh air is added and foul, moist air is removed automatically. Maintains proper temperatures to give you healthier livestock.

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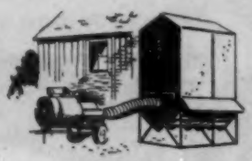
With Honeywell controls in charge of your milk cooling equipment you know milk will be kept at the proper temperature to maintain uniform high quality, bring in larger profits.



Crop Drying

When Honeywell controls are on your crop dryer you have maximum efficiency and safety, are assured faster, more certain drying. This saves time and money.

Crop Storage

Let Honeywell automatic controls protect your crops from respiration, shrinkage, and spoilage while in storage, help you hold your crops in storage until the market is at its peak.

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Whatever fuel you burn, Honeywell has safety controls to protect against fires, explosions, and power failures. For gas or oil, Honeywell provides complete shutoff if flame fails.

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Low-cost automatic temperature control. Ideal for bulk milk tanks, drinking water, scalding water, frost alarm, stock tank heaters and a multitude of other uses. Easily installed.

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Honeywell Farm-O-Stat. The Honeywell Farm-O-Stat ventilating and heating control combines ruggedness with 2-degree accuracy of control. It can be easily mounted on a flat surface or, with an adapter kit, on a post. Simple to read and set. Dust and rust resistant. Temperature range, 35° to 100°.

Complete line of controls. You'll increase yield and lower costs with Honeywell automatic controls on your ventilating fans, unit heaters, brooders, crop dryers, processing equipment, heat cables and heat lamps.

Ask for them on the heating and ventilating equipment you buy. Install them on the equipment you already have. The Farm-O-Stat and other automatic controls are handled by manufacturers of heating and ventilating equipment. Order direct from them, from your implement dealer, or from your local electrician.

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- ☐ Gas Control (Adatrol)
- ☐ Farm-O-Stat
- ☐ Ambi-stat

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"88" HOLIDAY SEDAN

A scene like this—you've just got to get out and enjoy it. A time like this—and you're smart to *get into an Olds!* And that's easy to do—especially if you choose this high-spirited hardtop—the "88" Holiday! Not only is the price right for most all new-car budgets, but this "88" is so packed with value that your investment is protected until resale time. So come in and get the feel of Rocket Engine power . . . the relaxing security of a truly big-car ride. Do it now while your present car is worth more in trade. Just see your nearest dealer . . . you'll see it's the perfect time for an Oldsmobile *Holiday!*

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HOARD'S DAIRYMAN
Founded in 1885

Wisconsin makes Bang's history!

In five short years, the nation's greatest dairy state wipes out brucellosis through excellent cooperation of farmers and veterinarians, the state and federal governments.

ANNOUNCING BANG'S VICTORY is Dr. Harry J. O'Connell, Wisconsin state-federal veterinarian in charge (left). He indicates to Governor Walter J. Kohler (center) and director of agriculture, Donald N. McDowell, that the six counties indicated in white have just been certified as being brucellosis-free, thereby ending the intensive five-year campaign under McDowell and O'Connell's leadership with active support of the Governor.

SIX years ago brucellosis (Bang's disease) was one of the most controversial issues in the nation's greatest dairy state. Wisconsin farmers, veterinarians, public officials, and farm leaders were at bitter odds regarding the best approach to bringing the disease under control and eventually stamping it out.

Now . . . six years later . . . Wisconsin has been officially recognized by the U. S. government as a modified, certified, brucellosis-free state. How did this transformation take place? Here's the story.

First we must go back to 1934 when brucellosis control and eradication was first launched by the federal government as a depression cattle reduction program. In that year 16 per cent of the cattle tested in Wisconsin were found to be reactors. There followed several years of continued test and slaughter until 1941 when 2.6 per cent of the animals tested were found to be reactors. Please keep in mind, however, that this percentage of infection was based only on animals tested. Undoubtedly, many more animals were infected but were not tested.

Then there followed the war years with a shortage of veterinarians and less testing. During this period the incidence of infection more than doubled, to 5.8 per cent in 1946. There followed, during the late 40's, sporadic efforts at vaccination, testing, and removal of reactors.

At one time an effort was made to certify township areas. This approach, however, did not get off the ground. No real progress was made until the early 50's.

The spark that started the ball rolling in Wisconsin was an act of the Illinois State Board of Health. That group adopted a recommendation of the U. S. Public Health Service which stated, in effect, that all farmers shipping Grade A milk into Illinois markets shall by January 1, 1955 have to ship from brucellosis-free herds.

Remembered TB days . . .

Wisconsin, remembering the old tuberculosis eradication days, became uneasy. Farmers recalled how Dr. Herman Bundesen of the Chicago Board of Health had caused the tremendous slaughter in Wisconsin. This time Wisconsin wanted to be ready and not suffer a repeat of the TB campaign.

At the time of the Illinois announcement Donald N. McDowell had recently been appointed director of the Wisconsin Department of Agriculture. A comparatively young but able, dedicated public servant, McDowell felt the problem was so great that it required the counsel of the foremost farm leaders of the state.

Accordingly, he called a meeting in Madison in September, 1950, and laid the problem before what has since become known as the 28-Man Committee. These men were official delegates from all of Wisconsin's farm, livestock, and professional organizations as well as the legislature, University of Wisconsin, and the State Department of Agriculture.

Showing extraordinarily good judgment, McDowell did not attempt to advise the committee what should be done. He simply placed the problem in the committee's hands and asked for its recommendations as to what policy should be followed by the Department of Agriculture.

At this first meeting it was painfully obvious that widely divergent views were held. Some felt that nothing should be done. Others felt that every calf in the state should be vaccinated. Others harkened back to the early TB and Bang's campaigns, advocating a complete test-and-slaughter program. Tempers were short, and feelings high as these strong men of divergent views argued their positions before the entire committee.

Finally a drafting committee, composed of representatives of each school of thought, was appointed. After repeated meetings the drafting committee came up with a program which, although it satisfied no one completely, was a reasonable compromise among the divergent views represented.

Applied to entire state . . .

Although many provisions were recommended, the essentials of the recommendations were these:

1. Ring test every dairy herd in the state every six months.

2. Follow-up blood tests in all ring test positive herds and annual blood tests in all beef herds.

3. Compulsory vaccination of all calves in reactor herds.

4. Voluntary removal of reactors.

5. All costs of vaccination, ring testing, blood testing, and payment of indemnities to be borne by the state and federal governments.

Again, when this report was returned to the 28-Man Committee, many changes were offered but the basic outline presented above remained intact.

At the same time that the committee was hammering out Wisconsin's brucellosis control and eradication program, two diverging movements developed. *(Turn to page 690)*

THESE MEN WROTE THE PROGRAM under which Wisconsin was later certified brucellosis-free. Shown above is a portion of the 28-Man Committee which drafted the program and advised the Department of Agriculture in its administration over a period of six years. Every farm, livestock, and professional organization in the state was represented.

Farm Flashes . . . .

Seasonal reminders and research notes for the dairyman

BOTHERED BY BUZZING HORNETS?

Bug killers will get rid of most hornets, according to insect control specialist E. H. Fisher of the University of Wisconsin.

It is best to do your control work during cool nights. Then you will catch most hornets, wasps, and yellow jackets in their nests, lessening the danger of a counter-attack.

Make a "spot" treatment of chlordane or dieldrin household preparations (either spray or dust) on screens, window frames, and other places where hornets and wasps generally crawl. Don't give the house an over-all treatment, because these insecticides are also dangerous to humans.

Dusts are easy to apply with a garden-type duster that has an extension tube. Put the tube into the nest opening and give the duster two or three strong puffs. That should kill the colony within 24 hours.

There are also emulsion or suspension

sprays available. Mix them with water, and follow the directions carefully.

Don't aim dust or spray at a hornet flying around the house in the daytime. You will probably just excite it enough to fight back.

Here's another precaution from the Public Health Service. If you get stung, put an ice-pack on the sting; then apply a paste made of water and bicarbonate of soda. If you are allergic to insect venom and illness develops, see a doctor.

COMBINE NEEDS "HEALTH CHECK"

A University of Wisconsin engineer suggests looking the combine over from one end to the other. Make certain there is good contact between the sickle sections and the guards. Some of the guards may be bent from last year, and will need to be straightened. Check the reel and replace any weak bats or struts.

Examine the canvas for holes, and check the rivets on the slats. If any of the bats are in poor condition, replace them immediately and you will double the life of the canvas. If you can't keep the combine inside, at least keep the canvas in a shelter.

Look for twigs and stones around the cylinder — a critical part of the combine. Obstructions there will bend the bars and result in poor threshing. You can straighten the bars if they are only slightly bent, but replace them all if any one is badly damaged. Check the concaves for wear, and replace them if necessary.

Replace any broken or loose slats on the straw rack. The grain conveyor chain needs just the right tension for proper operation. Set it fairly tight, but still loose enough so it will turn easily.

Combines must run at a certain speed to get the proper rack motion. Check the governor on the mounted engine, or on the tractor that will pull the combine if it operates by power take-off. Best P.T.O. speed is 535 r.p.m. under load, or 550 at an idle.

During operation, do not overload the combine, or some grain will carry over with the straw. Set the sickle bar to cut about 12 inches off the ground if grain is standing and lower if the grain is lodged.

Set the reel so that the bats hit the grain just below the head. Travel in low gear—about 2½ miles per hour.

Where lodging is a serious problem, it is a good idea to install special guards and reels with fingers 8 to 10 inches long.

LOW-PRESSURE SPRAYING CHEAPER

Low-pressure sprayers will do most of the necessary work on farms and they are a lot cheaper than high-pressure sprayers.

Orin Berge, University of Wisconsin farm engineer, says that high-pressure sprayers are necessary only when you need a finer mist and more force—killing insects on fruit trees or controlling potato diseases.

Fine mist and high pressure are not necessary for killing weeds and crop insects. A few drops of 2,4-D will do the trick on any annual weed. Insects "find" insecticides by flying and crawling over the plants.

With low pressure, you need less chemical and water to cover an acre. Low-pressure sprayers usually cost $150 to $200, but high-pressure units cost at least twice that much. Also, most low-pressure equipment can be mounted on any tractor.

HAYS COMPARED IN MISSISSIPPI

Even though Johnson grass hay is widely used in many areas of the south, very little information is available regarding its feeding value for milk production. Therefore, it was used as a standard for comparison in a study which involved four kinds of hay. It was compared to soybean, alfalfa, and oat hay as roughage for milk production in three separate feeding trials conducted by the Mississippi Agricultural Experiment Station.

Of those hays studied, alfalfa cut in the one-tenth to one-fourth bloom stage was the most desirable for milk production. This advantage was over and above its advantage in protein content, which in normal feeding practice, would allow the use of a more economical grain mixture.

Although the differences in soils prohibited direct comparisons of yields in this trial, alfalfa is known to be one of the highest yielding of the hay crops and should receive a high priority from dairymen with land adapted to this crop.

Johnson grass hay cut in the boot stage, soybean hay cut in the late bloom, and oat hay cut in the late milk stage are satisfactory for milk production, although not so desirable as alfalfa.

The soybean and oat hays appear some better than Johnson grass since they supported the same level of milk production and allowed gains in weight under conditions where cows on Johnson grass hay consistently lost weight. Excessive loss of weight in milking cows results in sharp drops in milk production later in the lactation. Also, a thin cow responds less to spring grass than one in good flesh.

REPLACEMENT HEIFERS NEED GRAIN

Be sure to keep dairy heifers intended for herd replacements growing during the spring and summer. Don't think pastures alone will furnish enough feed.

Such heifers, many of them born last fall, are on pasture now. According to E. C. Scheidenhelm, Kentucky dairy specialist, these heifers need to grow about six inches in the next six months. They just cannot take in enough dry matter from pastures to get the needed growth because of their age.

A 12 to 14 per cent protein grain mixture should be fed as a supplement. This can be about the same ration fed to milking cows this summer.

The amount of supplement fed depends on the age of the heifer and the condition of the pastures, but generally the amount should range from two to three pounds daily. Ample fresh water should be given these growing heifers, as well as plenty of shade.

COOL RIDE CUTS HOG LOSSES

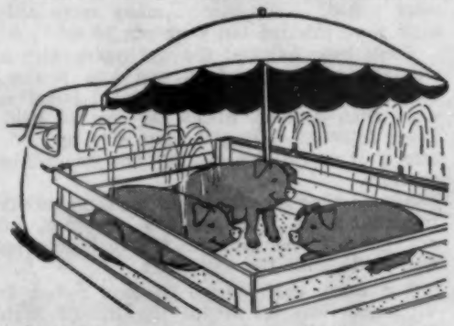
Give your hogs a cool, comfortable ride to market and you will cut shipping losses. An Ohio swine specialist suggests using sand for bedding and wetting it down before you load. A hog killed or injured enroute to the yards represents a loss in feed, labor, time, and money.

Here are other suggestions to help reduce shipping losses:

Feed only half a normal feed before you load livestock.

Use good loading chutes.

Remove sharp objects, such as nails and



bolts that protrude into loading chute, trailer, or truck.

Use patience and common sense.

Use slappers instead of whips or clubs to load animals.

Avoid crowding.

Do not kick animals.

Separate boars, stags, and large from small hogs in transit.

Load and unload slowly to avoid injury.

Slop-fed hogs and hogs fed out in close quarters may die in transit because of lung congestion. Slop-fed hogs and those that have received too much "fill" just before shipping also shrink more than other hogs, and will have a lower dressing percentage.

Is your silo SAFE?

It is often difficult to figure out why silos tilt, crack, or burst open. It can happen to new silos as well as old ones.

by Ted L. Willrich

MOST FAILURES can be prevented if you stop, look, and fix before filling. Since grass silage causes more pressure, it is a good idea to add reinforcing bands to most old silos before filling.

NO OTHER storage structure on the farm is put to a more rigorous test than the upright silo filled with chopped forages. Packed silage exerts heavy pressures against the silo walls. These pressures increase with the depth and moisture content of the silage.

If the ensiled crop is immature and high in moisture content, the excess silage juices cause additional pressure against the silo walls. A floor drain or weep holes at the silo base should be provided so the excess juices can drain out of the silo.

Most of the older silos were constructed to hold corn or sorghum. Since grass and legume silage exerts a greater bursting pressure in silos than does normal corn silage, additional reinforcing is needed.

Cast-in-place concrete silos, tile block silos, and other masonry silos with imbedded reinforcing bars in the walls should be reinforced for added strength.

In remodeling old concrete silos, tile block silos, and other masonry silos with exposed reinforcing rods, old rods should be tightened or replaced and enough additional reinforcing added to prevent failure.

The acids formed when chopped forage ferments are valuable. They preserve the silage. But these same acids can also do great damage. Any acid leaking through the silo wall will corrode the reinforcing rods. Corroded reinforcing loses strength and, in time, will not hold the silo walls together.

Concrete stave silos . . .

Concrete stave silos are bound together with exterior reinforcing hoops. The joints are sealed with concrete, and the interior surface finished with a rich cement plaster at least ¼-inch thick.

Because silage acids attack the lime compounds in cement, a protective, acid-proofing covering should be applied to the cement plaster. A mixture of linseed oil and asphalt or straight linseed oil has been commonly used for this purpose. However, the linseed oil protective coating may not be effective for more than one year. Newer plastic compounds applied to the cement plaster may last five years or longer.

Maintaining the protective coating and cement plaster is essential to keep silage acids from attacking the concrete staves and mortar joints. Weakened mortar joints let the acids leak to the outside wall where corrosion of reinforcing rods begins.

The author is an extension agricultural engineer, Iowa State College.

Cast-in-place concrete silos . . .

Monolithic or cast-in-place concrete silos have reinforcing bars imbedded in concrete walls 4 to 6 inches thick. Therefore, any slight pitting and disintegration of the interior wall surface is not as serious to the structural strength of the cast-in-place as the stave silo which has a thinner wall. Lack of care, however, allows the wall to become porous and silage acids may attack the reinforcing.

Tile block silos . . .

The earliest tile block silos were constructed with reinforcing bars imbedded in the mortar joints. Silage acids do not damage the clay tile, but they do attack the lime compounds in the mortar joints. Leaky mortar joints let the acids corrode the reinforcing. Therefore, mortar joints should be kept coated with an acid-resistant material.

If mortar joints deteriorate, the weakened mortar should be cleaned out and replaced with an asphalt mastic or cement mortar.

The newer type tile block silos are constructed with an acid-resistant asphalt material in all joints. The reinforcing hoops are on the outside. Redwood separators are used in all vertical joints so the tile blocks do not touch each other and will not break when the hoops are tightened. Leaky joints should be recaulked with mastic so the silage acids will not corrode the hoops. Hoops must be kept tight to prevent leakage.

Footings cause failures . . .

Unstable footings and inadequate foundations are frequent reasons for silo failure. A concrete footing placed at a depth below frost line is essential to prevent heaving.

Soil erosion has contributed to some frost heaving. Originally the foundation may have been adequate, but erosion has removed one or more feet of soil around the silo. Erosion is difficult to control in bare, sloping feedlots unless proper drainage is used.

Keep excess surface water out of the feedlot and you will have less erosion and a drier lot. A 6-inch reinforced concrete floor around the silo helps to control erosion and provides a convenient area for operating machinery and a good footing for livestock.

An unstable footing results when excess silage juices are allowed to seep into the soil around the silo. A tile drain should be installed to carry the juices away from the silo.

THE END

Easier renovation with less disking

Instead of disking 12 to 15 times, chemicals now available will kill the sod with one spraying. Then you fertilize, disk it twice, and seed. It works in New Jersey.

by M. A. Sprague

CHEMICALLY-RENOVATED AREA, left, contains productive brome grass and Ladino clover. On right is a weedy, unrenovated area.

FARMERS may be able to say good-bye to riding their tractors many times over rough ground in order to renovate their poor hillside pastures. If the New Jersey experiments of the past 6 years continue to bear themselves out in practice, from 1 to 3 diskings will be enough to prepare a good seedbed instead of the usual 12 to 15 times over the field.

We first kill the sod with chemicals which weakens it and makes an ordinary farm disk adequate to do a good job in about twice over the field.

Where the sod is especially tough, oversized 22- or 26-inch disks are needed; or chisel cultivators drawn by large tractors.

Dead sod breaks up easily . . .

But where the sod has been killed, it tears and breaks up easily like an old rubber band. When the soil is softened by moisture, even a light disk digs uniformly into the friable surface layer. A drag harrow pulled behind rolls and breaks up the pieces of sod readily, leaving a smooth surface.

Twice is usually enough; or perhaps three times where accumulations of dead grass shield the sod or rocks make the disk bounce. All that is needed is to turn enough soil to cover the seed.

The farm manager of the state farm at Annandale, N. J., undertook to renovate six acres this way under the guidance of the New Jersey extension service. For the sake of comparison, an area was also plowed before seeding and another area disk renovated.

All three seedings yielded about the same the first two years after seeding, about four times as much as untreated areas. However, the chemically-renovated area had less of the old, weedy, sod grasses the second year.

A similar trial was seeded on a farm in Mercer County. Four years later the disk-renovated plots were half bluegrass and ready to be reseeded again. The chemically-renovated areas were still made up of more than 90 per cent orchard grass-Ladino clover.

On the Charles and Frank Oldes farm, Pennington, N. J., a four-acre pasture was sprayed and seeded to brome grass and Ladino clover in August, 1953. The dry weather that fall killed most of the new seedlings so it was reseeded without further tillage in April, 1954. Establishment was excellent and the new pasture was grazed by the middle of July.

We have reseeded 18 farm pastures consisting of about 2 to 8 acres each during the past 5 years. We have had a few seeding failures, but they all are attributed directly or indirectly to dry weather.

The author is associate research specialist in the Department of Farm Crops at Rutgers University.

Here's how it's done . . .

Choose a chemical or combination of chemicals which will kill all of the plants in the sod. The idea is to wipe the area clean of all living plants so the new seedlings won't have competition. The dead grass stays in place as a protective mulch.

We are using several chemicals that look good, but are still trying to learn more about how to use them. These cooperative studies with Dr. R. J. Aldrich of the U.S.D.A. have found sodium trichloroacetate (TCA) at 25 pounds per acre works well on close-grazed blue grass sods. However, it is a little hard to use and costs about $12 per acre. Even at this cost, it is cheaper than disking.

Preliminary trials with dalapon at 7 to 8 pounds per acre have done an excellent job of killing grasses at about 2/3 of the cost for chemical. Both are essentially harmless to livestock. If broad-leaf weeds are present, ½ to ¾ of a pound of 2, 4-D should be added to the mixture. More recently, a mixture of dalapon (4 pounds) and amizole (1½ pounds) has done the best job at less cost.

Select area with good soil . . .

We choose an area for renovation which has pasture potential. No use putting good seed on a pile of rock. But if there is a productive soil present, the right plants and plenty of fertilizer will give you abundant grazing. Meet the lime needs first, at least six months before seeding.

Graze the area hard to remove the accumulated top growth. A mower or some carefully controlled burning might help get the area ready for renovation. This is a good time to take out unwanted trees and brush.

Spray the area and sit back and wait. If it's TCA, you'll see it turn brown in a week or less. If it's dalapon it will start slowly but keep dying for a month or more. Plants treated with amizole turn white.

Time of spraying should be governed by the time you want to seed.

Most of our fields have been sprayed the middle or end of July for a late August seeding. Some fields have been treated in August and seeded in September to small grains for grazing. The permanent grass is sometimes put in with the fall grains and the clover top seeded in late winter. With late fall treatment the sod will lie dead over winter for an early spring seeding.

One word of caution—**the safe time of seeding after treatment depends on getting the chemicals out of the soil.** If there is no rain between spraying time and seeding, the chemical will still be in the soil and will wipe out the new seeding. Better figure at least an inch of rain on moist soil or three inches on powder dry soil to safely carry the chemicals away. Dalapon and amizole, because of lower rates take less time than TCA.

Use plenty of fertilizer . . .

A month or so after spraying spread the required fertilizer. Use plenty of it—remember these areas have probably never been fertilized before. We usually suggest 750 to 1,000 pounds per acre of 5-10-10.

A day or so after a rain, disk the softened soil once each way of the field. Pull the drag harrow behind the disk with the spikes set about half way. As a rule a cut-away disk does a better job on stony ground.

The new seeding can be made the same day. Choose the mixture best suited to your location. We have had good success with all the pasture mixtures common to the northern areas including bromegrass and alfalfa, or birdsfoot trefoil and orchard grass and Ladino clover.

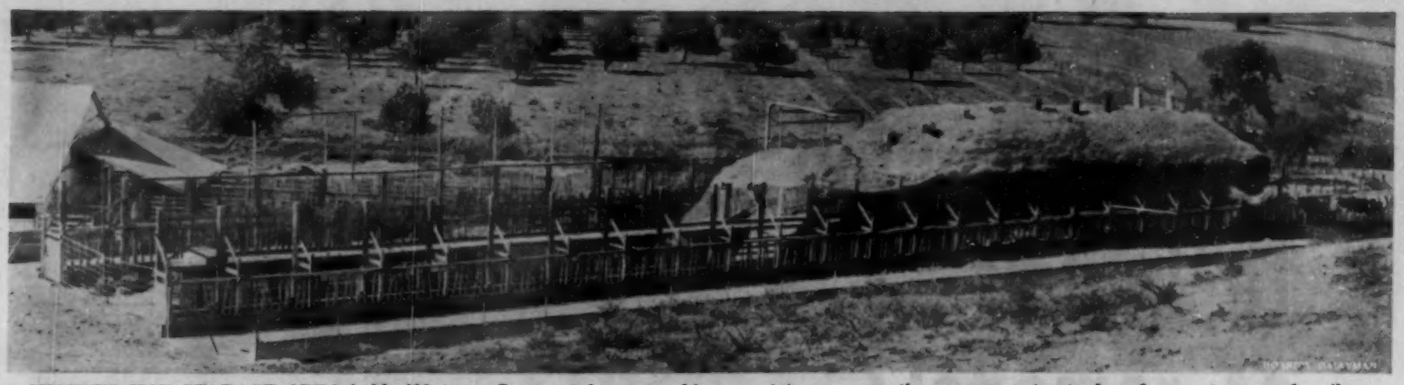
Seed is usually applied broadcast followed by a corrugated roller. However, band application of seed and fertilizer also works well.

Farm equipment organizations are currently releasing implements to seed directly into undisturbed sod. Although these implements were designed particularly for small grains, preliminary tests in New Jersey show they may be adapted for reseeding permanent pastures too, if redesigned so they will not put the seed too deep.

Fence the area from livestock until the seedlings are well established. Fall seedings can generally be grazed the following spring. Winter and spring seedings are generally ready for grazing in New Jersey by midsummer.

Remember—renovate those fields with the best soil first. Get the areas ready for treatment by close grazing or otherwise removing accumulated forage. Select the right chemical to kill all of the plants now growing in the pasture and put it on early enough before you plan to seed. Use plenty of fertilizer and cultivate only enough to cover the small seeds with soil. Choose a good seed mixture well adapted to your area and use enough seed. Your state experiment station is best able to advise you on these items with respect to your specific local conditions.

THE END



CHOPPED HAY STORAGE AREA holds 400 tons. Cows eat from stanchions next to mow; another manger sets at edge of concrete apron for silage.

A land use program for 500 head

Wesley Sawyer developed a herd averaging nearly 500 pounds by . . .

- **— extensive use of grass silage**
- **— pasture irrigation**
- **— rationed grazing**
- **— hauling pasture to cows**
- **— drying chopped hay**

by Dick Elmore

IF A dairy is to be an economical operation that will return the owner a profit, a major portion of its feed (a minimum of two-thirds) must be produced on the ranch." This is the candid opinion of Wesley Sawyer, Waterford, Calif. dairyman, who is so thoroughly convinced of the necessity of producing his own feed, that he has a program wherein he grows about 95 per cent of the feed his 500 animals consume.

This program embraces:

The growing of alfalfa;

Oats and vetch for hay and ensilage;

Irrigated pasture for ensilage and daily strip rationed grazing;

Winter rye for green chopped feeding;

Sudan grass for daily strip rationed grazing and ensilage;

Corn for ensilage; and

Barley for an ingredient in his grain mixture.

There are 850 acres in the ranch:

100 acres of alfalfa;

150 acres of irrigated pasture;

95 acres double-cropped with corn, oats, winter rye, vetch and sudan;

300 acres produce grain.

The remainder is land that is not under irrigation, but produces wild grass for pasturing dry animals during spring and early summer months.

The grain land is on a three-year rotation basis — 100 acres being in crop, 100 acres summer fallowed, and 100 acres pastured for dry feed. About 100 tons of barley are produced annually. This goes into a concentrate feed that is fed at milking time. The barley is hauled to a mixing mill operated by a neighbor where it is mixed at the rate of 1,200 pounds to a ton of finished concentrate. Other ingredients are cottonseed, linseed, soybean meal, 100 pounds of molasses, salt, steamed bone meal, and trace minerals. The resulting product is a 14½ per cent protein feed.

The concentrate is fed according to production, with the herd average being 4 pounds per cow per day. If a cow gives less than 30 pounds of butterfat a month, she is fed only enough to bait her into the barn. Other cows are fed at the rate of 10 pounds per day for every 60 pounds of butterfat each produces per month. Last year his herd average was 487 pounds butterfat with nearly 200 cows in milk.

900 tons alfalfa per acre . . .

Alfalfa is one of the major feed producers. Before the end of March, a crop is taken off and made into ensilage. During the following months four cuttings are removed and chopped to produce 40 tons of hay. Around December 15 a second ensilage crop is removed and placed in the pit silo. The alfalfa produces a strong 900 tons dry hay equivalent per acre.

The hay is chopped and placed in a 24-foot wide, 192-foot long mow where it is dried by air forced through tunnels under the hay, through the use of a 36-inch portable fan driven by a 5-horsepower motor.

Hay is fed free-choice night and morning when cattle are being strip grazed on irrigated pasture.

The pastures for the milking herd are divided into 28 strips, 2½ acres in size. The herd goes onto each strip for one day, setting up a 28-day rotation program. The pasture mixture is alfalfa with orchard grass and perennial rye grass.

Pasture provides half the roughage . . .

Animals are locked in pasture for four hours after milking, then are allowed to come to the hay feeding area where they finish eating. It is estimated that the pasture supplies only 50 to 60 per cent of the necessary roughage.

During the winter months, the cows are fed ensilage and chopped hay. Each takes about 70 pounds of corn or grass silage in the morning, followed in the afternoon by as much chopped hay as she will eat. Ensilage feeding is generally during the period from September 15 to April.

The 95 acres that are double-cropped are handled in the following manner: Seventy acres are planted to oats, vetch, and winter rye, then double-cropped with corn. Twenty-five acres are planted to oats and vetch, then double-cropped with sudan grass.

About 150 tons of the oats and vetch are made into hay, and 250 tons are put up as grass silage.

The winter rye is used as a green chopped feed that is hauled to the cows. This is done in February and March, lasting about 60 days, and is used as a green supplement before animals are able to go onto pastures. They are hungry for something green at that time and the rye seems to "fill the bill." Rye is grown because it has been found to do better during cold weather.

The sudan grass is set up in ten 2½-acre strips. Cows go onto each for one day every 11 days. It is irrigated with sprinklers and shows amazing recovery. Three grazings are taken off and the fourth growth is cut and made into ensilage.

The corn crop produces about 1,600 tons of ensilage. Two cuttings of the alfalfa and one early season cutting of the irrigated pasture gives another 1,400 tons. Approximately 500 tons come from oats, vetch, and sudan grass.

That is the story of feed production on the Sawyer dairy. With the cows needing about 1,000 tons of hay per year, and production being about 550 tons, it is necessary to purchase 450 tons. That, along with the ingredients for the concentrates which cannot be grown on the ranch, are all the feeds Wesley Sawyer has to purchase.

Careful management of land and crops, using proper fertilizer for increased yields, double-cropping for big production, and a good crop rotation program to assure maximum land use efficiency . . . all are a part of the Sawyer dairy program. **THE END**

PORTABLE ELECTRIC FAN with 30-inch blades is used to send air into the tunnel. The hay is dried in the 50-foot sections at one time. Here Wesley Sawyer is shown checking the fan.

Are you planning to build or remodel?

BEFORE remodeling, this barn had many undesirable features. The stalls were short and narrow, gutters shallow, no ventilation, and poor lighting.

These farm - tested ideas should be considered before you begin. The layout and arrangements will save you time and labor.

by Floyd Duffee and Lloyd Zeman

ARE you thinking of remodeling your barn or building a new one? If you are, do it right. It is costly to make changes after the barn is nearly completed. Chances are, if you haven't done a thorough job of planning, the barn won't lend itself well to any last-minute changes.

If you want to remodel, first check the structure of your barn. Consider what has to be repaired and how the barn lends itself to the way you want it remodeled.

Consider the barn in two parts; the mow section and stable section. Start by checking wall sills, floor joists, and framework of the mow section. Often these are decayed and need repairing or replacing. Check the roof and supporting beams. Then determine the amount of labor and materials needed to repair this section.

Figure space needed for hay and bedding so additional storage space, if needed, may be added. If you chop or bale hay and straw, chances are additional space won't be needed.

Next, check the stable section. Usually it requires more extensive changes. Some of the posts and beams which support the mow floor may need to be moved or replaced. Examine window sills, doors, door frames, and all other woodwork in the stable.

If you are building a new barn, its location is important. Build the barn so it does not detract from the house, and so that both driveway and barn can be seen from the kitchen. If possible, locate it so prevailing winds aren't apt to carry odors toward the house. The barn should be at least 100 feet from the house.

Don't crowd barn . . .

Allow plenty of space around all sides of the barn. A lot of room is needed to operate and set up elevators and forage blowers. Provide enough room so future additions can be built without crowding other buildings, thus creating a fire hazard.

Whether building or remodeling, make the barn big enough. Determine the maximum number of animals you intend to house in the barn in the future.

Agricultural engineers at the University of Wisconsin remodeled the barn at the University Electric Research Farm to test their ideas. Now they desire to pass along to farmers the results of those tests.

A barn should be 34 feet wide on the inside if stalls, alleys, mangers, and gutters are to be made as wide as they should. Barns narrower than 34 feet will require some compromises.

Build large stalls . . .

First, the farm engineers say, determine the size of cow stalls. Since the size and weight of dairy cows has been increasing, and probably will continue to increase for some time, stalls need to be built larger than in the past.

Other important points in favor of larger stalls are: Reduced cow injuries and ease in caring for the cows.

Length and width of stanchion stalls for cows of varying weights are as follows:

Weight of cow	Size of stanchion stalls	
Pounds	Length	Width
1,600 and over	6 feet	4½ feet
1,400	5 feet, 8 inches	4 feet, 3 inches
1,200	5 feet, 4 inches	4 feet
1,000	5 feet	3 feet, 9 inches
800	4 feet, 8 inches	3 feet, 6 inches

Comfort or tie stalls should be several inches longer and wider than stanchion stalls.

If your cows are average for the breed, they will fit into the following breed weights: Holsteins, 1,300 to 1,500 pounds; Brown Swiss, 1,300 to 1,400; Ayrshires, 1,000 to 1,150; Guernseys, 1,000 to 1,100; and Jerseys, 900 to 1,000.

Some farmers build two lengths of cow stalls; longer stalls for the big cows, and shorter stalls for the small cows. However, if electric cow trainers are used, it isn't necessary to have different size stalls for moderate differences in the size of animals.

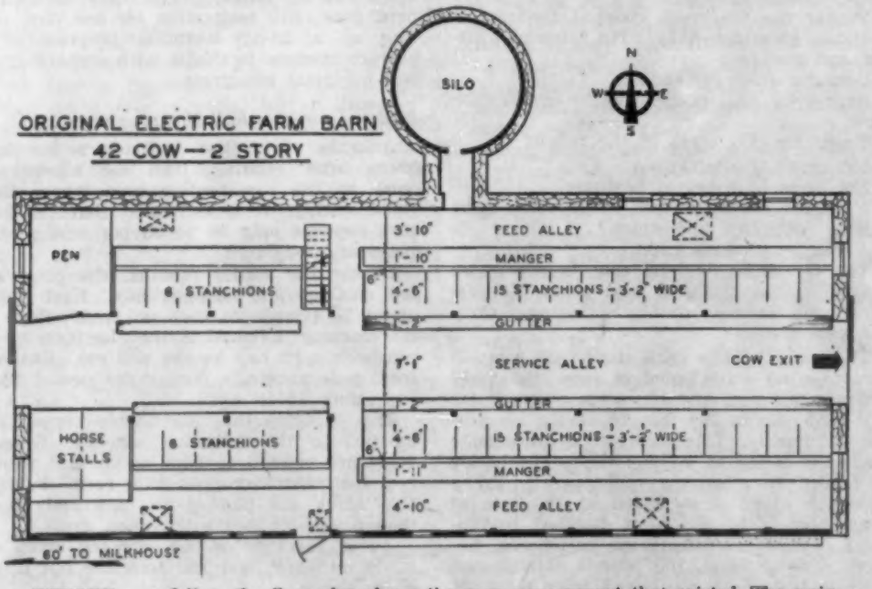
Stalls should be built to fit the larger animals, and cow trainers adjusted so the smaller animals stay clean. Besides permitting the use of large stalls, electric trainers keep cows cleaner. The trainer makes a cow stand back in the stall and drop her manure into the gutter.

Build sweep-in mangers . . .

Next determine the width of mangers, feed alleys, gutters, and service alley. If sweep-in and flat-bottom mangers are built, they need to be about 2 feet wide. Most dairymen prefer sweep-in mangers because they make feeding and cleaning easier, are cheaper to build, and cut down on barn width.

High-back mangers are made about 3 feet wide, so sweep-in mangers cut down the width of each manger by about 1 foot.

A flat-bottom manger is easier to build and easier to clean than one with a rounded bot-



BEFORE remodeling, the floor plan shows the poor arrangement that existed. The main reason for remodeling this barn was to find the best design for the utilization of electricity in reducing labor in production of quality milk and promotion of herd health.

The authors: Floyd Duffee is head of the agricultural engineering department, and Lloyd Zeman is a senior student in agricultural journalism, University of Wisconsin.

AFTER remodeling, it became a good example of what can be done in modernizing a 50-year-old barn. The improved outward appearance was only a small part of what was done.

tom. Cows are not as apt to push feed out of this type manger. Neither is there as much danger of a cow slipping and falling if she gets into the feed alley and steps into the manger.

Feed alleys need to be wide enough so a large cart can be used for feeding. An alley 3 feet 10 inches to 4 feet 3 inches is usually satisfactory. If there is ample space, the larger dimension is better.

Design the barn so cows face out. Then the feed alleys in front of the cows can be joined by cross alleys at each end. This will make a complete circuit of alleys. Thus, when feeding cows with a cart, you can feed the entire herd without back-tracking.

In order to provide sufficient capacity for once-a-day cleaning, gutters should be 16 to 18 inches wide and at least 10 inches deep. If you put in a barn cleaner, consult your dealer as to what is the best size gutter for his type of cleaner.

Design for barn cleaner . . .

New and remodeled barns should be designed for a barn cleaner. Even if you don't put it in right away, you probably will want to install one in the near future. It is much easier and cheaper to plan now for a cleaner than later on.

Extend the gutters in a straight line from one end of the barn to the other. Many barn cleaners are of the endless chain type and require a cross gutter at one end, or both ends, of the barn with sprocket pockets at the corners, so plan accordingly.

Gutters must go through the wall on one end so the manure can be carried out to an elevator, stacker, or some other means of handling the manure on the outside.

Sections of the floor that will need to be removed when a cleaner is installed should be filled with sand and covered with a thin layer of concrete. This concrete can easily be chipped out when the cleaner is installed.

If a barn cleaner is put in, the service alley can be narrowed by a couple of feet. The alley should be about 6 feet wide. However, if cramped for space, you can get by with a 5-foot alley.

On the other hand, if a drive-through service alley is preferred to a barn cleaner, the alley should be nearly 8 feet across. An alley 7 feet 6 inches wide is about as narrow as one can go.

A 39-cow barn with a loose housing shed for heifers should be about 158 feet long on the inside. This length makes it possible to have cross alleys 4 feet 10 inches wide, and stalls 4 feet 6 inches in width. It also allows for 2 rows of calf and maternity pens 31 feet in length, and for a loose housing shed 27 by 34 feet.

For barns housing herds up to 40 cows, it is a good idea to build a loose housing shed onto the end of the barn. Here heifers and dry cows can be housed and fed. With herds of over 40 cows, it is better to feed and bed young stock in a separate shed.

Individual stalls for calves . . .

For young calves, individual stalls are better than pens. A raised stall with a slatted bottom keeps calves drier and can be cleaned fast and easily. Individual stalls also cut down on sickness in calves and reduce space requirements.

The stall, including the manger, should be about 5½ feet long and 2 feet 8 inches wide. This is 15 to 35 per cent less space than is needed to keep calves in pens. However, with individual stalls it is impossible to temporarily crowd more calves into a stall than in a pen.

Calves have to be lifted in and out of the raised stalls. So, after they are 6 weeks of age, calves are too big to be kept in the stall and have to be put into a pen.

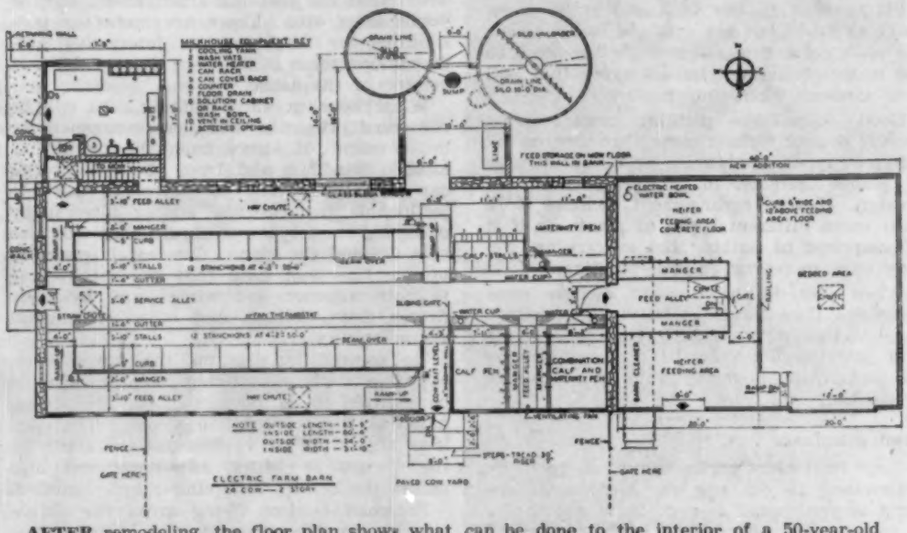
Calves from 6-weeks to 10-months-old require 20 to 25 square feet of pen space. Calves over 10 months require 30 to 40 square feet. This does not include manger space. Calves over 10 months need 24 to 30 inches of manger space.

A barn housing nearly 40 cows with a loose housing shed for heifers and individual pens for small calves, should have 2 maternity pens and 2 pens for older calves. Maternity pens should be about 9 feet long and 12 feet wide. Since 1 maternity pen is desirable for every 20 cows, it is easy to figure how many pens will be needed.

Make the calf pens about 11½ feet long and 12 feet wide. Calves require 20 to 25 square feet of space and since most pens are made about 12 feet wide, 2 feet of pen length are desirable for each calf kept in the pen. Therefore, a pen 8 feet long will hold 4 calves; a pen 10 feet long, 5 calves; and a pen 12 feet long, 6 calves.

Locate the gutters outside rather than inside of the calf pens. With gutters on the outside, it is easier to repair the barn cleaner. It is also possible to use the shovel-type barn cleaner which cannot be used when the gutter is located inside the pens. A gate in the center of each pen will provide convenient cleaning into the gutter.

It is best to put the water bowl on the gutter side of the pen where it will not take up manger space. This location also will reduce the amount of hay *(Turn to page 684)*



AFTER remodeling, the floor plan shows what can be done to the interior of a 50-year-old barn. The 40-foot addition at one end takes care of 12 heifers. In addition, the barn now provides space for 24 milking cows; 8 calves, 1½ to 10 mos.; and 4 calves under 1½ mos.

TABLE OF CONTENTS

Principles of Design
Size of Barn
Size of Stalls
Location of Barn
Calf Pen Arrangement
Check the Old Structure
Silos, Silo Rooms, and Feed Rooms
Plan for a Barn Cleaner
Windows and Artificial Lighting
Ventilation and Insulation

For more detailed information, write Hoard's Dairyman Plan Service and request Special Bulletin No. 4, "Planning Stall Barns." Cost is 25 cents.

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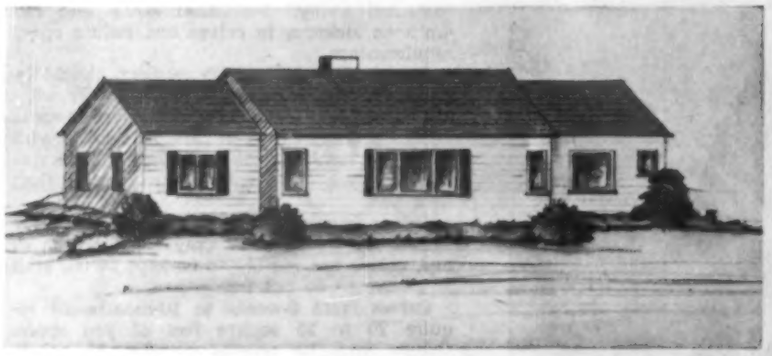
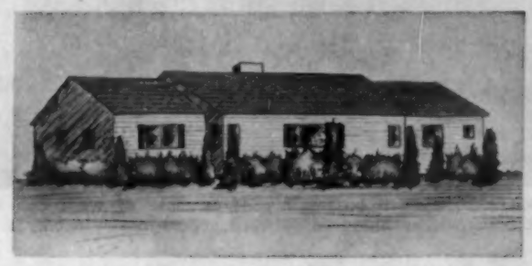


SIMPLICITY is the keynote on the left. Low plantings tie the house in with the grounds. Below, the house is hidden behind shrubs that were planted too thick. View from window is obstructed by shrubs.



Plant shrubs...

to beautify your home

Shrubs attract birds, provide privacy, block out objectionable views, and tie your house into the landscape.

H. R. Kemmerer

A WIDE expanse of lawn and several trees properly arranged will add a lot to the attactiveness of the farmstead setting. But to provide a really adequate setting, you will want to use some shrubs to help tie the house in with the surrounding landscape and provide additional interest and character to the setting.

The attractiveness of shrubs added to your setting will be more than worth the time and effort involved in pruning and other care practices that may occasionally be necessary. Actually, if you select disease and insect free shrubs that will not grow taller than desired, and if they are adapted to your soil and environment, your maintenance can be kept to a minimum.

Arrangement of the shrubs into groups along the border and next to the house will also eliminate the difficulty that is involved in mowing around shrubs that are scattered around the lawn area.

Emphasize the house . . .

The common practice of planting shrubs around the farmstead (placing a group of evergreens around the house) is not desirable because no design is involved and the house invariably becomes nothing more than a background for the plants.

With your setting you will want to arrange the foundation plantings in a manner that will emphasize the house and not the plants. Also, you will want to make the house look like it is part of the entire setting and not an isolated structure set in the middle of a grass island.

You can tie the house and lawn together by extending a line of plants out from the corners of the house and by curving some plants in the shrubbery border, that extend beyond the front of the house, toward the house. A unifying effect can also be created by using some of the same types of plants in both the foundation planting and border plantings that are curved toward the house.

To make the shrubs complement the house, you will want to use plants to soften sharp angles and unpleasant house design. The plants should also carry out the dominant line of the house, but try to use some contrasting shapes to provide interest. If your house is simple, you may also want to use an upright evergreen or other accent plant somewhere along the front of the house. However, don't chop up the front of the house with a lot of upright plants.

Stagger shrub line . . .

If your house is made of brick or other siding material that is attractive to the ground, you needn't put a solid line of plants in front of it. The gap in the plantings gives a desirable arrangement because of the better blending of lawn, house, and shrubs than would be possible with a lawn leading up to a solid line of shrubs.

All of the shrubs need not be placed directly against the house. They can frequently be 10 or 15 feet from the house and still look attractive. This is especially true of a low ranch-type house that has an entrance walk parallel to the front of the house and a low hedge or other plantings on the outside of the walk.

Plants next to the walk should be given space to grow, but not over the walks. Also, the plants that are selected for use next to the house should not be tall types that will hide windows when they mature.

Good foundation planting arrangements usually do not include more than five or six different types of plants. The actual number of plants used is, of course, considerably greater. If your arrangement includes more than seven different types of plants or if it is comprised of nothing but evergreens, you may want to rearrange your plantings.

When you do, be sure to include some deciduous (lose leaves in fall) and evergreen shrubs. Use of broadleaf evergreens (plants that have large leaves that are retained on the plant throughout the year) should not be overlooked.

Form a balance . . .

Your final plant arrangement can be easily determined if you use the balance of the front of your house as a guide. If your house is symmetrical (the door is in the center and windows and other architectural arrangements are the same on both sides of an imaginary line drawn through the center), use the same planting arrangement on both sides of the line. However, if you have a new one-story symmetrically-balanced house, all the plantings need not be the same on both sides, if a dominant group is repeated on both sides. In either case, ultimate arrangement of the plantings should be dish-shaped with the lowest plantings next to the entrance and taller plantings near the corners.

If your house has an asymmetrical balance (the door is not in the center and the two sides of the imaginary line through the center do not correspond), try to repeat the dominant lines of the house with the plants. Most houses have at least one vertical and one or more horizontal lines.

Most newer farmhomes have an asymmetrical balance with a dominant horizontal line. The primary planting around them should be a low planting of fairly uniform height that carries out the horizontal line of the house. Either sheared hedges or a row of low-growing plants that need no trimming may be used. The latter include plants such as andorra juniper, dwarf flowering quince, and Froebel spirea. They are frequently preferred because their lines are more in keeping with the informal lines of most homes.

Plant the back yard . . .

Don't stop planting as soon as you have determined the planting arrangement for the public lawn area. There are numerous possibilities for developing an interesting outdoor living room in the lawn area to the rear or side of the house.

With the back yard planting, you will be concerned primarily with the development or improvement of views from the picture or kitchen windows and from the patio. You can develop a view by screening out objectionable features and adding interest by using different types of shrubs that will also help develop the views. Interest is provided by the lines and form that the shrubs give in both summer and winter and by their flower, fruit, foliage, and other ornamental characteristics.

To prevent cutting up the lawn areas, plants in the outdoor living room area should be confined to the borders of the area designated as the outdoor living room. The open lawn shows off the ornamental characters of the shrubs to better advantage and also makes the setting look simple and dignified.

In small outdoor living areas the shrubbery is usually arranged in a straight line. If yours is larger than 50 by 50 feet, you will probably want to *(Turn to page 685)*

The author is an instructor of landscape gardening, University of Illinois.

How to select a farm sprayer

Weeds and insects face a rough future because of the new chemicals. But, no chemical is better than the sprayer you select.

by Wendell Bowers

BEFORE you start looking for a sprayer, take an inventory of the spraying jobs that can be done on your farm. If most of it is row crop work, then you would be interested in a tractor mounted or trailer type row crop rig.

Maybe most of your work will be fence row or ditch bank work. If so, then you might consider a simple pump and large nozzle outfit which doesn't need a boom.

Finally, if you intend to do some custom work, then you want a sprayer with large capacity and suitable for all spraying needs such as a high clearance, self-propelled model.

Select correct pump . . .

In looking at a spray rig, consider the pump to be the heart of the sprayer, since it furnishes the energy to the liquid so that it comes out of the nozzles in fine particles. Manufacturing pumps require a certain amount of precision, so excepting possibly the tank, they are usually the most expensive part of the sprayer.

The pump capacity should be your first consideration. It is a good idea to choose a pump with a capacity three or four times that needed to supply the boom. This will make your pump more flexible for the different spray jobs on your farm. Also, the extra capacity will provide more agitation from the by-passed liquid, and the pump can be used to fill the sprayer tank.

Gear pumps are positive displacement pumps which are quite suitable for handling non-abrasive or non-corrosive liquids at low pressures. If used at pressures above 150 pounds for long periods, the pumps will soon wear out.

A pump which is being well accepted by farmers is a vane type pump with nylon rollers. Its main advantage is that when the pump loses its prime or fails to deliver sufficient pressure, only the rollers have to be replaced. It is similar to the gear pump in that it shouldn't be used at high pressures for very long periods of time.

If you need to use high pressures, then you might consider a piston-type pump. They are capable of delivering pressures up to several hundred pounds.

It doesn't matter too much as to the material that is used to make a sprayer boom. Aluminum is often used because it is light and doesn't corrode easily. Galvanized pipe is also used, but its weight can cause a whipping action on rough ground that might result in damage to the boom or boom supports. Its main advantage is that it lowers the cost of the sprayer.

Some sprayers have no boom other than an angle iron or a bar to which nozzle holders are fastened. The row spacing on this kind of rig can be varied to suit any need.

Other booms come in two or three sections with a shut off control so they can be operated independently. This is quite handy for finishing fields or spraying along roads.

Another very desirable feature you might want is some kind of release so the boom doesn't break when it strikes a solid object.

Keep spray solution clean . . .

Do everything possible to help keep the spray solution clean by starting with clear, clean water. Even the finest particles will tend to clog nozzles.

There should be a coarse screen on the suction side of the pump. This screen, usually 40- to 50-mesh, will remove any coarse particles which might cause damage to the pump. Since this screen is too coarse to remove particles that can clog nozzles, another finer screen is needed between the discharge side of the pump and the boom. This screen is usually 80 to 100 mesh, with a provision for easy removal and cleaning.

Finally, nozzles for weed and insect control need another screen to insure that a full and uniform spray pattern is maintained. This may be a 100- to 200-mesh screen which is a part of the nozzle. The smaller the nozzle size, the smaller should be the size of the openings in the screen.

Two types of nozzles are available and commonly used in ordinary spray equipment. The flat fan pattern nozzle has to be lined up with the boom, but when properly adjusted, provides a very even pattern. The hollow cone pattern nozzle doesn't have to be lined with the boom, but an uneven pattern will result if the boom height isn't right. Which one of these nozzles you use doesn't matter as much as being sure to get the correct size.

Nozzles are usually rated in gallons per acre. For instance, a 10-gallon per acre nozzle will spray 10 gallons of solution per acre at a given pressure and speed.

Manufacturers usually specify four miles per hour and either 30 or 40 pounds per square inch pressure. To get a different rate of application, change the nozzle tip.

Use boom drops . . .

An important accessory for any sprayer you buy is a set of boom drops that can be inserted into the boom to help place the nozzles down between the rows. Such would be the case if you were spraying for weeds in a cornfield after the corn is a foot high.

The same boom drops or boom extensions could also be used for spraying corn borers.

Regardless of the job, it is important to remember that there is a correct nozzle adjustment which will result in the best coverage. The manufacturer of your sprayer will usually supply this information with the operating instructions. However, you will probably find 18 to 20 inches between the nozzles and the object you are spraying will result in the best coverage with a minimum amount of drift.

Use hand gun attachment . . .

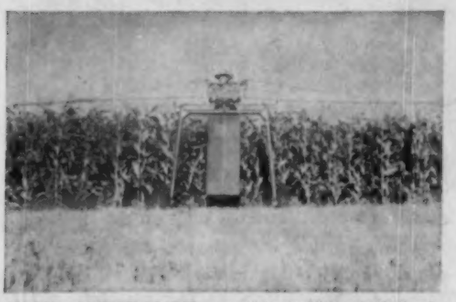
Almost any farmer can use a hand gun attachment for his sprayer. Since it requires very little extra material to equip a sprayer for this attachment, most farm sprayers are being sold with a hand gun attachment.

The information in this article applies to sprayers used exclusively for agricultural chemicals and is not intended for sprayers to apply liquid fertilizers. **THE END**

The author is an extension agricultural engineer, University of Illinois.

TRAILER-TYPE SPRAYER with a high capacity will do a thorough job of killing insects.

HINGED BOOMS, controlled from the tractor seat, work well along fence rows and highways.



HIGH CLEARANCE on this self-propelled rig makes it ideal for spraying second-brood borers.

BOOM DROPS allow nozzles to get under corn leaves to spray weeds growing between rows.

HAND GUN attachment allows spraying of animals in the barn lot; also small weed patches.

What land is profitable to irrigate?

IRRIGATING well-fertilized alfalfa-brome grass pasture on droughty soils is one way to keep up your milk production during these long, hot, dry spells.

How much does irrigation cost for benefits received? This depends on available water supply, soil type, and fertility level.

by Harry A. Kerr

GRAVELLY SOILS are low in water-holding capacity. Irrigating shallow-rooted crops on this type of soil will result in greater profits.

RIVERS make an excellent source of irrigation water. The millions of gallons used during the summer months will have no effect on river level.

CONSTRUCTED PONDS make a good water supply. A 2-acre pond, holding 5 million gallons supplies 15 acres during a dry period.

FIRST you gits the water! Like Mandy's recipe for rabbit pot pie, "First you catches the rabbit, then . . ."

Whether or not you may irrigate a crop certainly depends on a plentiful water supply. There are a few other factors of production to look at before rushing out to spend $150 more or less per acre for irrigation equipment.

In the Northeast liberal use of fertilizers on medium-to heavy-textured soils has returned more dry matter per acre than the irrigation of medium-to low-fertility soils of like texture. For the dairyman who is interested primarily in excellent summer pasture, whether he should irrigate or use more commercial fertilizer depends to quite an extent on the texture of his pasture soils.

A medium-textured soil with a compact subsoil will not dry out rapidly. This is true even under conditions of low summer rainfall. Seeded to a mixture of Ladino clover and orchard grass, pasture plots located on this soil type in New York did not give yield increases that would pay the costs of irrigation. When comparing returns from heavy fertilization alone against irrigated low fertilization, fertilizer was a better investment than was the high cost of irrigation.

On the low fertility plots the non-irrigated Ladino-orchard grass pasture produced about 3,500 pounds of dry matter per acre while the irrigated pasture produced 4,200 pounds. When fertilizer was used at a high rate, the unirrigated yield was about 7,200 pounds of dry matter and under irrigation, 7,300 pounds. The cost of the fertilizer was much less than the water costs. Therefore, where you have similar soil and moisture conditions, it would pay handsomely to use liberal amounts of fertilizer without irrigation.

When irrigation pays off . . .

Deep sandy and gravelly soils are droughty. Many of our soils are coarse-textured, low in moisture-holding capacity, and very droughty in dry years. When we combine these conditions with shallow-rooted forage crops such as Ladino clover and many grasses, supplemental irrigation will show profitable returns.

With some of the deeper-rooted legumes and grass mixtures on droughty soils, the increases due to irrigation may be less. Profitable returns from added water are there, however, due in a large part to the heavier yield of the grass in the mixture as well as lesser increases of alfalfa.

When alfalfa-brome grass pasture was irrigated, yield increases up to 80 per cent on a dry weight basis were recorded. During the past four years in New York, irrigation has increased the yield of alfalfa-brome grass by a ton or more per acre on a dry weight basis. It appears that irrigation has an important place on many farms in the East.

Field observations as to comparative yields are always a bit misleading. Irrigation will improve soil moisture conditions for plant growth and the yield of green matter will be greatly increased. But, what is frequently overlooked is that much of the increase in growth may be due to greater succulence rather than greater dry matter production.

For instance, the green weight yield on some irrigated pastures was 14,000 pounds—a little over 7 tons per acre. The dry weight of this material was 3,600 pounds or 1.8 tons. Non-irrigated herbage weighed 5,550 pounds green, with a dry weight of 1,930 pounds—or 1.0 tons.

Here we have a green weight yield increase due to irrigation of 160 per cent, but an actual dry weight or feeding value increase of only 81 per cent. True, the irrigated pasture looks much better to the human eye but does the dairy or beef cow share our opinion?

Work at Illinois has shown that the rate of gain of steers on irrigated pasture was less than the rate of gain of steers on pasture not irrigated. Dairy cows probably can utilize succulent forage better than beef steers. Observations indicate that irrigated forage is more palatable to dairy cows than non-irrigated herbage. Recent studies at Cornell show a slightly higher digestibility for irrigated forage.

Again, however, irrigation equipment is costly and needs constant attention. A large cool watering trough located in a shady corner of the pasture would probably increase the water intake of dairy cows on a hot summer day—and at much less expense.

If, however, you are raising a market crop of lettuce, tomatoes, or any other crop sold by fresh, succulent green weight, the added water in the green weight may bring premium price for quality as well as increased tonnage per acre.

Water supply a big factor . . .

Granted that you have the droughty, high-fertility soils and the excellent seedings that

The author is an extension soil conservationist at Cornell University, New York.

are limited by only a moisture supply, you now plan to irrigate, and rightly so. Now you look for the water supply.

The best thing that could happen to you is to have had your great-grandfather homestead a place bordering on a large river that flows a constant clear stream of water. Here, with your pasture fields along the river bank, is the ideal for irrigation.

Not being this lucky in having such foresighted grandparents, you will be forced to develop a water supply from either smaller streams, uncollected surface water, or drilled wells to tap ground water.

If you are considering this last source, the deep wells, be sure you have coarse water-bearing strata under your farm. Deep sand and gravel layers or coarse rock that is well filled with water will do nicely. A well to yield from 400 to 1,000 gallons each minute must have its feet deep in rich water-bearing layers.

Not having either a large river or a flowing well, then surface water must be the source of a generous water supply. A small stream generally will not furnish enough water in the dry summer months unless dammed. The building of large ponds to collect and store water is also expensive and requires careful engineering design and construction. But this may be your safest investment.

Water rights a problem . . .

Most of our eastern states recognize the right of a landowner to **capture** and store for his **exclusive use** uncollected surface water as it falls on his land. Snowmelt or water from small springs or seeps are usually included in this class of waters.

Percolating or ground water is another source of supply that has been recognized by the courts. Here the terms **reasonable use** and **beneficial use** are often connected with the idea of a landowner's right to pump from wells on his land. Court decisions have also pointed out that use **on the premises** was a requirement to the landowner's right to pump. Therefore, the development of wells for an irrigation water supply would be upheld in most states so long as the water was used on that tract of land or farm.

Water in streams, lakes, or ponds belongs to the public. Each owner of land touching a body of water has equal rights to use it as does the general public for transportation on navigable waters.

We recognize this as the riparian rights doctorine of use of surface water in well-defined channels or lakes. Here, one's rights are specific enough but difficult, if not impossible to define and apportion.

Depending upon a water supply as sporadic and questionable as a small stream might prove ruinous to a crop as well as to a sizable investment in equipment.

Therefore, when you start to plan your irrigation for the future, consider these many factors of production. Fertilizer, lime, and good seeding mixtures should be used to the limit before supplemental water is applied.

Irrigation is an expensive undertaking that requires careful application and continued good management. It is a means of increasing production on those soils where water is the last limiting factor of maximum yield today.

Should you decide to invest heavily per acre in the recommended equipment, do so only after careful inventory of your total farm resources. **THE END**

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WHY THIS PRICE FOR MILK?

11TH AND FINAL ARTICLE

Have farmers' needs been met?

This concluding article sums up the strengths and shortcomings of federal orders and state milk control laws.

by Hugh Cook and Harlow Halvorson

THIS concluding article in the series takes a final look at federal and state milk control laws on a general level. Most of it expresses the views and opinions of the authors.

Can we manage the federal orders so they will not slow down new developments in marketing?

The intent of federal milk marketing orders is to bring about orderly marketing of milk. At the same time, they should not disrupt the marketing structure more than necessary in administering minimum milk prices to farmers. When prices are fixed some restrictions inevitably have to be applied. Since we advance through technological change, these restrictions should be studied critically to make certain they do not stand in the way of progress.

What has happened in federal order markets?

The number of dealers often has fallen sharply after an order is established. Usually these are the small producer-distributors. However, since the trend already had been toward eliminating producer-distributors, the orders merely speeded up this adjustment.

Often a new dairy product, when introduced to a market, will be pushed into the highest possible classification as soon as a hearing is held. This, of course, tends to take out of the item the profit which may be necessary to induce dealers to develop it.

A case in point is the way concentrated milk was pushed into a high-use classification within a few months after its introduction in Boston. It now is in Class I in over 30 of the 63 federal order markets. The wording of the other orders would probably place it in Class I if it were introduced in those markets. Furthermore, many of these orders have pool plant provisions which will tend to limit the manufacture of concentrate for sale in federal order markets to those plants which have pool plant status.

This, of course, resulted from the rule of the dairy division that all products which must be made from local milk, approved by health authorities, shall be classified in Class I.

There is less retarding effect on technological change in federal than state orders because federal orders do not fix resale prices, whereas many state orders do. However, the effect of fixing minimum farm prices must be watched.

For example, if an order sets a farm premium for bulk milk, it could sharply retard this development. During the transitional stage many dealers would not make much, if any, profit. Dealers might actually discriminate against bulk milk, or ignore the development, if they had to pay out more for it than they thought economical.

Probably the state milk control laws which fix minimum resale prices have done the most to slow down new developments. About 11 of the 16 state milk control laws set resale price minimums.

Under state milk control it is difficult to compete with new products and services. To do this, the dealer must establish "cost justification." The difficulty of doing this may keep him from making the change because initial costs may be quite high.

Recent studies of state milk control in the Northeast have shown that prices of paper cartoned milk and quantity containers are higher than they would be without state milk control. This suggests that these new developments may have been retarded by state laws, and that competition at the retail price level may have been reduced.

Have federal and state order prices hurt the demand for milk?

Since prices are going to be administered somehow by some person or group, the question is: Has the administration of prices been as sensible as possible and has it affected demand?

Most of the time, orders and state milk control have helped to stabilize milk prices. Many people feel that more price stability improves the demand for a product and is certainly better from a public relations standpoint.

Unless consumers can easily see a clear-cut reason for price changes, they may become suspicious of

"I understand the savages went in for that sort of thing before we civilized them."

farmers, handlers, and labor battling over the profits in the milk business.

But, have orders stabilized prices enough? There is still some seasonal price change in most markets, with prices rising in summer and fall, and dropping in spring.

In view of the inelastic demand for milk, this price variation really doesn't move much more milk into consumption. So, from the standpoint of demand, it might be desirable, if possible, to establish and hold for six months or a year a fluid price which would average-out the usual seasonal price changes.

But, because of neighboring lower-priced milk, this is difficult, if not impossible, to do in most markets. Where markets are in surplus, the competition from these surplus supplies forces bottling milk prices down.

In certain deficit-areas in the East and South it has been possible to stabilize seasonal price changes more effectively than elsewhere but, of course, at higher levels than in the Midwest.

Have orders helped farmers become better producers?

We feel insofar as federal orders are concerned, the answer is "Yes, without question!"

In the first place, orders have encouraged farmers and their organizations to adopt responsible attitudes and practices toward their markets. In the give-and-take of order hearings in many markets, farm leaders have increasingly recognized their public responsibility in supplying the market with milk. This should reflect the attitude of the farmers they represent.

In the second place, the actual running of an order has called for assembling much more information about the market and passing on this information to farmers. Producers have become better informed about their market and, thus, better able to supply it.

Also, in practically every market, steps have been taken to even out the seasonal variation in supplies. In this, some markets have been more successful than others. Generally, where farmers have leveled out production, they have increased yearly milk production. Orders have undoubtedly played an important part in encouraging farmers to make these changes.

Another important development has been the growth of field service activities of the organizations representing farmers in order markets. Fieldmen do an important job in helping farmers meet production and quality problems. The order program can claim some of the credit for bringing this about.

Of course, many other changes have taken place which have helped farmers become better producers. These things have been more important than orders in bringing this about. However, orders have been part of the picture and their important role should not be discounted.

So far as the state milk control programs are concerned, the effects have been less clear. There have been important differences between the various state programs. In general, in these programs there seems to have been less concern with keeping farmers informed and with developing attitudes of public responsibility on the part of producers and their representatives than in the federal order program.

Federal or state programs may have cost us by promoting the development of milk supplies where milk would not normally be produced or where cheaper outside supplies could have been regularly obtained. This is difficult to judge.

There seems little question, however, that with scientists at work, the housewife will soon be buying in concentrated form considerable milk which has come from the most efficient producing areas. Consequently, many milksheds may partially "dry up" as consumers shift their milk buying habits.

Have the orders fulfilled their basic or original purposes?

During the early years federal milk marketing orders were used deliberately to increase income to dairy farmers. This was done by restricting the milkshed; restricting, by quota plans, production within the shed; restricting new producers; and using other devices.

Doubtless this plan did help raise milk prices. By the late 1930's, however, it was largely abandoned because of much criticism. Most of this came from farmers who were denied entry to the market or who were restricted from increasing production.

Since those earlier years the philosophy of federal order administration has been essentially only that of "orderly marketing," the aim being to achieve about the same long-run prices to fluid milk producers as would have existed had there been no order.

It is questionable if this objective actually has been achieved. We would guess that long-run total returns to fluid producers probably are greater than they would have been otherwise. But this policy may have caused uneconomical production in relatively high-cost areas, and cut down on consumption of fluid milk in such areas by keeping fluid prices higher than the milk could have been brought in from competing sources.

However, federal orders have "cushioned" farmers from the impact of dealer price wars, and brought orderly markets.

State milk control laws, on the other hand, may have restricted even more the movement of milk among markets. A recent study of the state milk control laws in the Northeast concluded that state and federal milk control programs had brought a somewhat higher price to producers and stimulated production. This could not have been done without restricting entry of milk supplies from outside this area.

That study did not try to show how much of this effect was from state compared to federal orders. No doubt, large, federally regulated markets such as New York (which serve as a sort of dumping ground for surplus milk from New Jersey and other areas) helped lift prices under the eastern state orders. But most of the restrictive effect on in-shipments from other areas came from the state orders.

THE END

"Hog high" corn

A short corn hybrid that is just about "hog high" has been grown for demonstration purposes by plant breeders at the University of Wisconsin. The big-eared variety produced about 80 bushels an acre in 1955 at Madison.

Researchers say the hybrid, which averages only 50 inches in height, might be useful for planting in wide rows with alfalfa, for combining or where no silage is needed. Seed is not available and will not be in the near future, according to N. P. Neal, agronomist.

About 50 short corn hybrids have been found by United States plant breeders.

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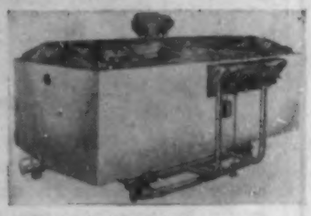

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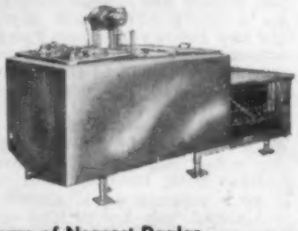

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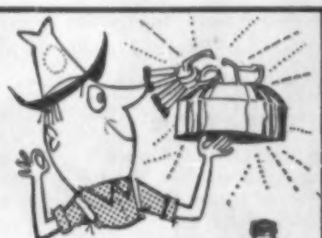

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FEEDING

by N. N. Allen

Avoid the summer slump

Determine the quality of your pasture and supplement it with grain, salt, and water.

WHEN we talk about a balanced ration, it may sound like something that is rather academic and hard for the average dairyman to understand, but this is not the case.

Lets suppose you were the owner of a factory for making some piece of machinery, say a tractor. The factory has all of the tools and equipment for doing the job plus the skilled workmen to operate them. It needs only the materials and the power. If every material and part is brought to the factory in just the right amount or numbers, and there is plenty of power, the factory can operate to full capacity.

But, suppose only half enough parts arrive, the factory can make only half as many tractors. Or, suppose there are enough of all parts except batteries. If there are only half enough batteries, the factory can turn out only half as many tractors as it is otherwise capable of producing. To use a common expression, the batteries are a bottleneck that is holding up production.

Dairy cow a milk factory . . .

Every dairyman has on his farm, not one, but a number of factories all tooled and equipped to do a job. Every cow in the herd is a factory in which milk is made. As in the tractor factory, she has the equipment to turn out a certain amount of milk, but only if she gets the parts and materials, which in this case are the nutrients which must come from the feed.

And as with the tractor factory, there can be bottlenecks if any one of these nutrients is short. A balanced ration is simply one in which there are no bottlenecks. If such a ration is fed in sufficient amounts, the herd will produce right up to its capacity.

Watch for the bottlenecks . . .

In the winter, when we portion out all of the feed which the cows get, we can figure pretty well to avoid any shortages. In the summer, it is a different deal, but it is still just as important.

When the cows are on pasture, they are partially self-fed. We do not portion out the grass and do not know just how much the cows are getting. But we must make a pretty accurate estimate in order to know what nutrients are short, and to plan the supplementary feeding so there are no shortages.

To do this, we must look the pasture over carefully and frequently and plan the feeding accordingly. It is quite apparent that there are bottlenecks, and very serious ones, in most herds at this time of the year, for production usually slumps to the lowest point of the year during mid to late summer.

What are the shortages . . .

When we are sizing up the pasture, we should ask ourselves two questions:

Is the pasture good enough that the cows can get all of the feed they need?

Is the grass that the animals are eating well balanced so that there are no shortages?

Takes lots of grass . . .

There is a very good chance that the answer to the first question will be "no". And it is quite probable that the second answer will be "yes".

If the grass is not too mature, it is usually not too far out of balance. Even on badly over-grazed pastures, what grass there is will usually be fairly high in protein because it is young growth.

Good pasture comes the nearest to being an ideally balanced diet of any single kind of food which cows eat. It is only when it is permitted to grow up and ripen that the grass becomes low in protein. Good pasture is rich in carotene, which furnishes the cow her principal source of vitamin A. It is a good source of minerals and is usually high in calcium, particularly if clover or other legumes are present. In areas where phosphorus deficiencies are very common, the cattle usually perk up a lot while on good pasture.

Even when the pasture is of very high quality, the cow must eat a lot of the grass if it is to supply all of her needs. It will take from 100 to more than 200 pounds of grass to meet a cow's needs, depending on her milk production.

If pasture is very good, cows can eat such amounts but they cannot do it if the pasture is overgrazed or if overly mature.

Usually, a simple, low-protein mix will supplement the pasture and enable the cow to produce well. If the pasture is reasonably good, it will not take as much grain as is fed during the winter. If grass is over-ripe, a higher protein level may give good returns.

If the pasture is grazed so close that it has become just a big exercise lot, we should start feeding hay or silage.

Salt and water needed . . .

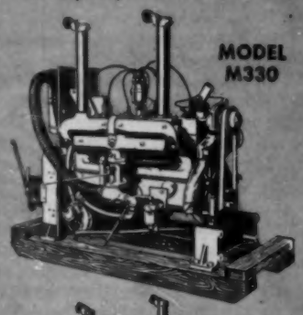
We have probably been putting some salt into the grain mix and have not bothered to salt them otherwise. But when they go on good pasture, less of the grain mix is eaten, so it becomes very important to provide additional salt.

Salt may be given free-choice either in block form or as loose salt in a sheltered box. The cattle use more water during hot weather just as we do, so a supply of clean, cold water is very necessary.

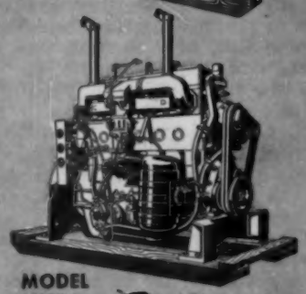
The short pasture season also brings trouble with poisonous weeds. Such weeds usually are not eaten, but when the grass supply is burned up, they become more appetizing. Poisonous plants can be found in most pastures. The best protection is to try to control the weeds in the pastures, and to keep the animals on good grazing.

NO PLACE FOR A JACK OF ALL TRADES

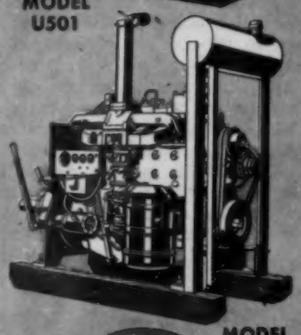
Sprinkler irrigation system on the Wilson farm, Lexington, Neb. Continental Red Seal Model M-363 operating on natural gas drives the deep well pump.



MODEL M330



MODEL U501



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EDITORIAL COMMENT

DESIGNED FOR ALL FARMERS

A MICHIGAN dairyman asked us recently why he should support the Soil Bank idea. He had no land that he wished to place in the bank. This being the case, he could not see where he stood to benefit from the enactment of a Soil Bank bill.

Polls reporting farmer sentiment from other sections of the country indicate many farmers may feel the same way. Apparently, they do not understand the primary function of a Soil Bank.

The purpose of the Soil Bank is to improve the price of all farm commodities. This, of course, is done by taking land out of production so that surpluses will not continue to flood our markets. When the surpluses disappear there should be a strengthening of prices and improved markets throughout the United States.

If the Soil Bank is successful, therefore, it means little whether or not you personally may have land in the Soil Bank. The important thing is not the government check for retiring land but the improved markets which result from land somewhere being retired from production so that our markets may be better.

We do not claim that the Soil Bank is a guaranteed success. Only time will reveal its effectiveness. We do believe, however, that it gives good promise of being effective. Our only regret is that such a program was not made available at least two years ago.

LAVISH BREED CONVENTIONS

WE SENSE, with some relief, that the national breed conventions are tapering off in their spending for lavish entertainment. In recent years the annual Guernsey and Holstein meetings have developed into extravaganzas involving the spending of many thousands of dollars by the host states.

While these conventions have been extremely pleasant to attend, the drain on local people has been entirely too heavy. For example, we saw a stage show put on by one state breed association. The cost was reported at over $7,000 for that one performance.

It naturally followed that the next host state wanted to do as well as had been done previously—and perhaps a little bit more.

Most convention visitors have agreed that some type of a limit should be put on convention spending. A Texas delegate made the remark at a recent convention that when the breed group came to Texas they would have to give away either a Cadillac or an oil well as a door prize. While the remark was made only as a joke, it does reflect the problem which has developed.

In our opinion, the hosts to these annual conventions should not be expected to devote an entire year's hard work and tremendous funds for a two- or three-day holiday by convention visitors. If these visitors want this type of entertainment, they should be willing to pay for it. We think they are.

It might be well for the board of directors of the breed groups to establish some policies and perhaps some financial limitation on the conduct of annual conventions. If they would do so, it would be a great relief to those states which are obligated to be hosts in the years to come.

Actually, the great majority of convention visitors look forward to but two things; seeing and visiting with old friends again, and having the opportunity to see some good cattle. Lavish entertainment, while enjoyable to the guests, is not worth the price that must be paid by hard-working farmer-breeders in the state where the convention is held.

A LESSON TO REMEMBER

WE DEVOTE considerable space in this issue, beginning on page 667, to a report of Wisconsin's successful campaign to wipe out brucellosis. We do so not for the purpose of passing a bouquet to Wisconsin. We wish to record for historical purposes one of the most significant milestones in man's conquest over disease.

It is our particular purpose to make this story known so that it may provide valuable experience which may be drawn upon by other states today and in future generations. This is the history of a major livestock health campaign. The most significant part of this report is the technique which was used to gain an objective.

To this date we have never witnessed a struggle compounded by so many divergent views. Neither have we heard those opposing views so strenuously and heatedly expressed and argued. In spite of this handicap, the power of compromise prevailed.

It was a perfect example of democracy at work. The result was an equally perfect example of the gains which may be achieved if we use democratic processes.

Basic to all this was the participation of sincere men dedicated to the public good.

We should never forget this lesson revealed by the Wisconsin experience as we face other livestock health problems and campaigns in the future. Since our knowledge comes only from our personal experience and the experience of others, this historical achievement should be one of the cornerstones of knowledge upon which we can draw in the future.

THE PRICE OF BREAD

DURING the last 10 years the price of bread at retail increased 7.3 cents a pound. The price of wheat and all other ingredients in making the bread rose only ½ cent during the same years. The remaining rise of 6.8 cents a pound reflects higher marketing costs. The biggest increase was in labor in milling industries and bakeries.

Certainly this is a very simple but convincing example of what has happened to the cost of food. It also provides an excellent conversation piece to use with our city friends who argue that increased food costs make the farmer's lot a happy one. The truth of the matter, of course, is that increased costs have benefited primarily the city worker and businessman, not the farmer.

It is all the more reason, too, why a domestic parity program for wheat and other commodities looks like the most sensible approach to a national farm program.

Only through the use of the domestic parity concept can the farmer hope to have the bargaining power to offset or balance the well-organized pressures of labor and business in their successful efforts to secure an ever-greater portion of the consumer's dollar.

C. R. DONHAM DIES

A MAN perhaps little known to dairy farmers passed away recently in West Lafayette, Ind. He was Dr. Charles R. Donham, for several years head of the veterinary science department at Purdue University.

Dr. Donham in his lifetime made a rather remarkable contribution to the health of America's livestock. In our opinion, his greatest contribution came from his broad vision of the role of livestock health as a cornerstone of a permanent type of American agriculture.

Over 15 years ago we had some of our first long visits with Dr. Donham. He, more than anyone else, stimulated Hoard's Dairyman to renew its historic interest in livestock health programs. It was he who reviewed for us the impact of poor livestock health protection on the animal agriculture in many of the older nations of the world.

He painted for us the benefit which had been derived as a result of stamping out many damaging diseases in this country. He drew the line between two conflicting philosophies. One was to continue our policy of endeavoring to live without disease. The other was the weaker philosophy of living with diseases which could be eradicated.

Largely because of Dr. Donham's logic, we once again entered the brucellosis (Bang's disease) fray immediately following World War II. It was our belief that our livestock health philosophy was at a crossroads at that time. Powerful influences were directed toward dumping our historical approach to the solution of livestock health problems. Specifically, for example, they were ready to give up in the fight against brucellosis.

We hope that, in some small way, we may have made a contribution to our getting back on the right track. The certification of Wisconsin and Washington as brucellosis-free states, and the near certification of several others, would seem to be evidence that this nation is succeeding in stamping out what was once our most frightening and damaging disease of dairy cattle.

Dr. Donham was a man of great influence. Because he had the ability to rise above his microscope and see the broad implications of his work, and because of his ability to relate his views to others, he, perhaps more than any other one man we know, protected the destiny of America's livestock agriculture when that destiny was in danger.

Dr. Donham was a great man of our time. Not only dairy farmers today, but our sons and grandsons, will have a better life and American consumers in the future will have a better diet as a result of the work and influence of Dr. Charles R. Donham.

In 1906, W. D. Hoard said:

There is no reason on earth why every farmer who keeps cows should not be a well-informed man on the physiology and function of the dairy cow. Such knowledge would prove a very profitable guide to the wisest and best methods of handling the cow. We should always remember that the highest profit from cows can only come through the use of the best judgment and the best methods. To have good judgment we must have sound knowledge, for as said the ancient proverb:

"Woe unto him who believeth a lie."

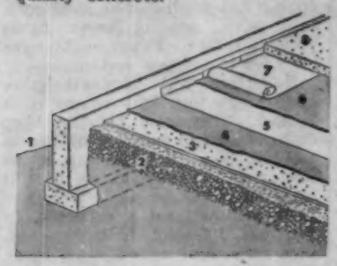
Questions from Our Readers

Moisture-proof bin

What can I do to moisture-proof the concrete floor in my grain bin to prevent molding and sprouting of the grain?
Kansas **J. L. S.**

The proper procedure to construct a dry, rat-proof floor is as follows:

1. Select a well-drained site.
2. Place a 6-inch gravel fill.
3. Place a grout coat of cement and sand (1 to 3 mix) ½-inch thickness.
4. Mop with hot asphalt.
5. Place a layer of 15-pound roofing felt and lap and seal edges.
6. Mop again with hot asphalt.
7. Place another layer of 15-pound roofing felt.
8. Place 4-inch floor slab of quality concrete.



Since your grain bin is already constructed, it would be advisable to first grade the adjoining site of the bin to provide good drainage and then proceed with the construction of a new floor, as outlined, on top of the old floor. The gravel fill could well be included in the new floor if space will permit because it will break any capillary movement of moisture from below.

It should be remembered that grain is in a safe condition for storage in any tight bin only after it has dried to the proper moisture content. Excessive moisture will cause souring, heating or molding. Moisture limit for safe storage of market grade wheat, grain sorghum, shelled corn or oats for one year or longer would be 13 per cent, that of market grade soybeans would be 11 per cent.

If grain is to be used for seed, the moisture content should be 1 to 2 percentage points lower. The limits apply to the wettest grain in the bin.

—WILLIAM L. ROPER

Poor ventilation

A year or two ago you had an article in your magazine about a type of fresh air inlet for dairy stables which consisted of an opening one inch wide in the mow floor where the floor joins the walls.

We put such an inlet in our barn the entire length of both walls but it fills up with frost in cold weather. What is the reason for this? We have a fan controlled by a thermostat to take the air out of the stable.
New York **D. J.**

When the slot-type inlet to which you refer is used, it is essential that there be one continuously-operating exhaust fan in the stable. When your fan is turned off by the thermostat, air from the stable tends to back draft through the slot into the mow which causes the frost to form.

Assuming that your stable is reasonably well insulated, the answer to your problem is to regulate your present fan so that it will run continuously by restricting the amount of air which can get to it, or to leave your present fan as it is and install a second fan which can run continuously without lowering the temperature of the stable.

Such a fan should have a capacity of approximately 25 cubic feet of air per minute for each 1,000 pounds of livestock housed in the stable.

—D. W. BATES

Keeps us awake

We have drinking cups in our barn attached to the pressure system that also supplies water to the house. The system has been in for about four years with no problems. Now everytime a cow takes a drink a noise is produced in the pipes in the house.

It is so bad that it wakes us up at night and it is necessary to shut off the water supply to the barn in order to get any sleep.

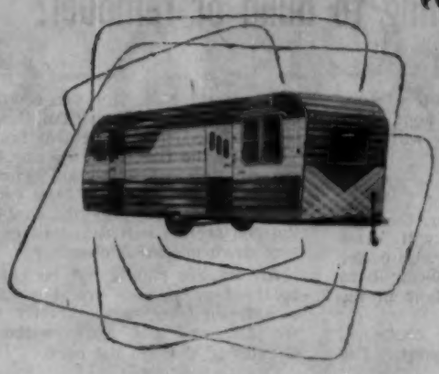
Any suggestions you can give us for correcting this situation will certainly be appreciated.
Minnesota **B. A.**

The difficulty you are having is commonly referred to as water hammer. To overcome this, it is necessary to provide a small air chamber at the end of the water line away from the pressure tank. This can be done by attaching in a vertical position a two-inch diameter pipe about two feet long to the water line. It is also possible to purchase a device called a snubber which can be placed in the water line to give the same effect.

Since the water system has been in for four years and the trouble has only recently developed, it is likely that there is already such an air chamber in the system but it has become water-logged. In this case, the system should be partially drained so that air can get back into the chamber.

—D. W. BATES

"Ya-a-a, Ed says I should go on a diet—getting entirely too heavy!"



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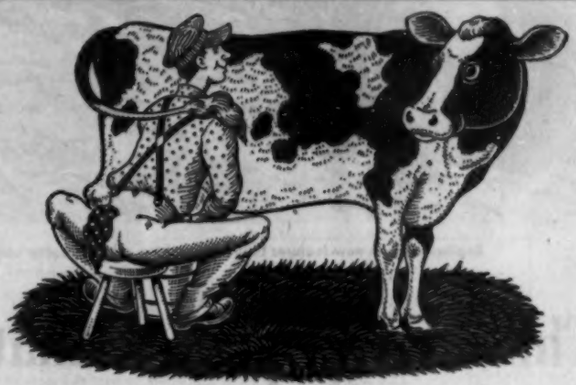

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Morton TRACE MINERALIZED Salt for more milk, husky calf crop

ONLY a few extra hundredweights of milk per year will bring in enough to pay for about a ton of T-M Salt. Therefore, it is livestock insurance that costs you *practically nothing!*

College feeding trials conclusively prove the need for trace minerals in the rations of all livestock. Most farm lands are short of one or more of the essential trace minerals—**cobalt, iodine, iron, copper, zinc or manganese.** So feed Morton T-M Salt the year 'round to guard against mineral deficiencies . . . assure yourself of *more* milk, *more* meat, *more* wool and a higher return from each feed dollar.

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MORTON TM TRACE MINERALIZED SALT

At your feed dealer's—bags or blocks.

Are you planning to build or remodel?

(Continued from page 673)

carried by the calves to the bowls. And, the pen will be kept drier since any water overflow will drain directly into the gutter.

Put fan near pens . . .

A ventilating fan in the pen section of the barn will draw warm air into this otherwise cooler area. Usually, in a 40-cow barn you will need 2 more fans in the stall section.

Each fan should be controlled by a separate thermostat. The thermostat for the first fan should be set 2 degrees lower than those for the second and third fans. This way the first fan (the one in the pen section) will start before the others. When just a little ventilation is needed, only the fan in the pen section will run, thus cutting down operation costs.

Air intakes should not be close to the fan. If they are, the cold outside air may move directly to the fan and out again without circulating through the barn.

Thermostats must be located where they will not be affected by a cold air intake, sunshine, or radiation from light bulbs. Columns and ceiling brackets are good places to mount them. Attach them a little above eye level.

"Tight" barns will need air intakes to provide fresh air. Adjustable intakes having a net opening of 60 to 100 square inches for each 3 cows are desirable.

If you build a new barn, use vapor barriers and insulation in the walls. A good insulation job will make it easier to control temperatures, both in winter and in summer. A paper vapor barrier, put in barn walls at the time of building, will keep the walls dry.

Many barns lack adequate window space in the stable section. The United States Public Health Service milk ordinance recommends 1 square foot of window space for each 15 square feet of floor area. When glass blocks are used, window space has to be increased 25 to 50 per cent.

In the pen section, 1 square foot of glass for each 20 square feet of floor area is desirable.

Good lighting essential . . .

Space windows as uniformly as possible on all sides of the barn. This will insure good distribution of light. Build windows as high as possible to permit the greatest penetration of light and to reduce breakage.

Because chores are done when it is dark, during much of the year, good artificial lighting is necessary throughout the barn. Four rows of lights are desirable. Put 2 rows over the rear of the cow stalls, spacing lights about 8 feet apart. Put another row over each feed alley, spacing these lights every 20 feet. Fewer lights are required in the pen section.

Reflectors will eliminate glare and direct the light where it is needed. They also help to keep bulbs clean and reduce bulb breakage. A 60-watt bulb with a reflector will provide as much light on a cow's udder as will a 100-watt bulb without a reflector. If you use 100-watt bulbs, use 12-inch reflectors; with 60-watt bulbs, 10-inch reflectors are recommended.

Use dustproof light fixtures in the hay mow and feed room. **Dust on hot bulbs could easily cause a fire.**

Don't forget silo . . .

Build silos at least 10 feet from the barn so ventilation and sunlight aren't cut off. Build the first silo at one corner. Make the silo room large enough so a second silo may be built in opposite corner.

Silos should be built far enough apart so there is space in the silo room for a good-sized door between the 2 silos. If the room is to be used as a combination silo and feed room, the door should be at least 9 feet wide and 8 feet high so feed hauling equipment can easily be pulled in and out.

A silo room not used as a feed room will need a door about 4 feet wide in order to install mechanical silage feeding equipment for yard feeding.

The door between the barn and silo room should be at least 6 feet wide. The floor has to be on the same level as the feed alley.

With the increased use of grass silage, the problem of removing frozen silage is becoming more serious. Grass silage freezes more solidly than corn fodder. However, a good silo unloader will remove frozen silage and mix it with the unfrozen so it thaws out much faster. The silo unloader removes silage evenly over the entire surface, so small amounts can be fed without spoilage.

Plan new barns so silos and milk house are on the same side. This will leave one side of the barn clear for setting up an elevator or crop blower.

Locate the milk house close to the milking herd, but also, if possible, where it is convenient for the milk hauler. It should be on a well-drained site, a good distance from the cowyard and silos.

Plan your barn so it can be expanded. Improved farming practices and new labor-saving equipment are making it possible for a farmer to increase the size of his farm. **THE END**

Engineered with new features that farmers have asked for, new one-row pull-type NEW IDEA corn picker

This is the picker that farmers built

New one-row pull-type corn picker from New Idea . . . with greater convenience and safety

We've talked with a lot of farmers about what they want most in a new one-row picker. That's why we say this new one-row is the picker that farmers built.

Four new convenience features. Keeping a picker greased and humming is a constant and time-consuming job. So the new one-row has 30% fewer grease fittings. And it takes less effort to raise and lower the snapping unit because of a new, spring loaded lifting mechanism, within easy reach from the tractor seat.

Then, there's an easy-to-use "snap-on" universal joint. And, for more even distribution of corn in the wagon, there's a new ear deflector at the top of the wagon elevator, adjustable easily from the tractor seat. Those are four of the things that farmers have asked for and get in the new NEW IDEA picker.

Two new safety features. There's a positive, conveniently located snapping roll adjustment by means of a lever and quadrant. This gives you easier, safer unplugging of snapping rolls. And the PTO shaft is now permanently shielded for greater safety.

17% less corn left in the field. You can't afford *not* to own a NEW IDEA corn picker. Why? Because the average corn loss of 25 NEW IDEA pickers in 1955 official contests was actually 17% less than the average corn loss of 73 competitive machines. That's clean field picking that can't be beat.

Clean corn. One of the reasons why NEW IDEA owners won more state and national championships in 1955 than owners of any other make is the unique design of the husking rolls. They deliver a maximum amount of clean corn to the wagon elevator.

Write for new folder on the new one-row NEW IDEA pull-type picker today. Or get a copy at your dealer's.

Best idea yet . . . get a New Idea

NEW IDEA FARM EQUIPMENT CO., DIVISION AVCO DISTRIBUTING CORP

Dept. 1861, Coldwater, Ohio

Please send me your folder on the new one-row picker.

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Also send folders on Mounted picker ☐ Two-row pull-type picker ☐ Snapper ☐ Elevator ☐ Wagon ☐ Wagon box ☐ Stalk Shredder ☐

Plant shrubs...

(Continued from page 674)

get more interest in the setting by using large, sweeping curves.

You can arrange your back yard plantings in either a symmetrical or asymmetrical manner. With careful planning, you can have some arranged both ways. A good way to make sure your plantings will be viewed as a balanced grouping is to establish a focal point and balance your planting around it. A seat, bird bath, flower border, or other features that command attention may be used as the focal point.

Plant in groups . . .

The shrubs that make up the border planting should be planted in groups of three to five of the same type of plant.

When selecting your shrubs, be sure to get variety of interest. Flower color, season bloom, foliage color, texture, fruit effects, and winter interest are all examples of ornamental variations possible.

Some shrubs in the farm court will help reduce the bleakness of the area around the farm buildings and will also serve as a barrier to keep unwanted traffic off the grass island.

Shrubs will also act as a barrier and a screen for the rock or gravel area of the parking section of your drive.

You will also want to place some shrubs next to your patio and in a spot where a setting can be developed for a view from the kitchen window. The plantings in all areas should be in balance with shrubs from surrounding areas.

Many desirable shrubs . . .

The following list mentions only a few of the many shrubs desirable for use in farmstead landscaping. Most are generally hardy throughout the northeast section of the country. Other lists of desirable plants for your area can be obtained from the landscape extension specialist at your state agricultural college or from a reliable local nurseryman.

Deciduous shrubs

Dwarf
(1 to 3 feet)

Slender deutzia* (S).
White flowers in spring. Good informal hedge.

Alpine Japanese flowering quince (S).
Red flowers in spring. Good informal hedge.

Anthony waterer spirea (S plus SH).
Pink flowers in late spring through early fall. Good informal hedge.

Medium
(4 to 7 feet)

1. Japanese barberry (S plus SH).
   Thorns make this a good barrier plant.
2. Spreading cotoneaster (S).
   Red berries in fall. Also interesting fall foliage color.
3. Alpine currant (S plus SH).
   Good hedge needs pruning only once a year.
4. Yellowtwig dogwood (S and SH).
   Attractive foliage with white flowers in spring. Also has interesting yellow bark in winter.
5. Dwarf winged enonymus (S and SH).
   Blends well with evergreens; interesting red fall foliage.
6. Snowhill hydrangea (SH).
   White flowers in early summer. Blends well with ferns.
7. Koreanspice viburnum.
   Pinkish-white fragrant flowers in mid-spring.

Tall
(8 to 15 feet)

1. Flowering almond (S).
   Pinkish-white flowers in early spring.
2. Beauty bush (S).
   Spreading arching branches with pink flowers in spring.
3. Tatarian dogwood (S or SH).
   Red twigs in the winter.
4. Winged Enonymus (S or SH).
   Blends well with evergreens. Interesting ridgy, greenish bark.
5. Showy border forsythia (S).
   Yellow flowers early spring.
6. Tatarian honeysuckle (S-SH).
   White flowers in spring and red berries in summer. A good screen plant.
7. Japanese snowball (S).
   Large snowball like flowers in spring.
8. Wayfaringtree viburnum (S or SH).
   Upright growth habit. White flowers in spring and black fruit in summer and fall.

Narrowleaf evergreens

Junipers

1. Andorra (S).
   Its 1 foot height makes it ideal for low houses. Good informal hedge. Foliage turns reddish color in winter.
2. Sargent (S).
   Gets a little taller than the andorra juniper. Stays green throughout the year.
3. Pfitzers (S).
   Wide spreading; gets approximately 5 feet high. Good where large mass desired. Do not use around one story home.
4. Cannaert red cedar (S).
   Narrow upright plant. Will grow to 20 feet but can be kept pruned to 6. Horizontal branches make it ideal for use around a low house.

Pine

1. Mugho (S).
   A globe-shaped pine that gets about 4 feet high.

Yew (Taxus).

1. Dwarf Japanese (S or SH).
   Gets about 3 feet tall but can be kept to 1 foot.
2. Spreading Japanese (S or SH).
   Wide spreading; gets 8 feet tall, can be kept at 4 feet.
3. Upright Japanese (S-SH).
   Pyramidal shape to 15 feet.
4. Hicks (S-SH).
   Narrow cylindrical shape with flat top to 10 feet.
5. Hatfield (S-SH).
   Good hedge plant. Can be pruned at 3 feet or allowed to grow to 8 feet.

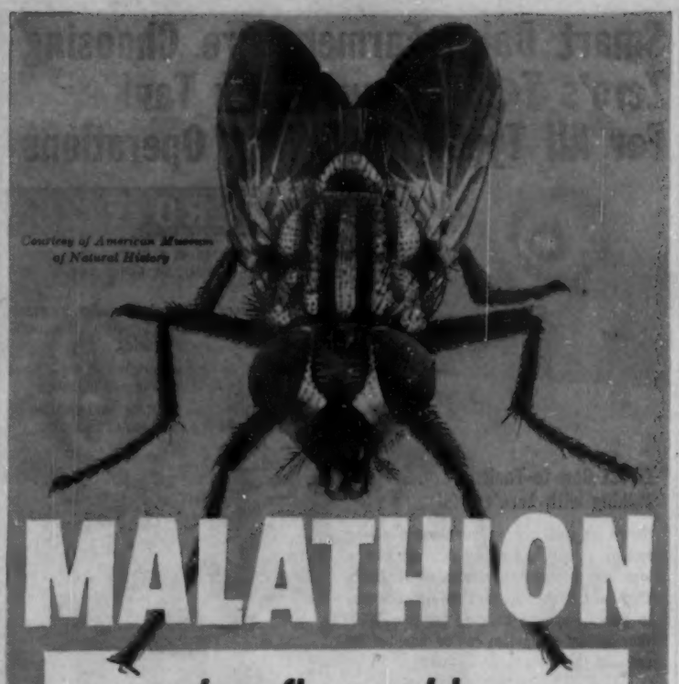
Broadleaf evergreens

1. Bigleaf wintercreeper Enonymus (S-SH).
   Shrub to 6 feet or vine to 10 or 12 feet. Orange berries in the fall.
2. Purpleleaf wintercreeper (S-SH).
   One foot high; spreads out over ground.
3. Laland firethorn (S).
   Five feet, thorny, with orange berries in fall.
4. Oregon hollygrape (S-SH).
   Four feet; foliage somewhat resembles that of holly.

---

*S—prefers sun.
SH—will grow in shade.

THE END



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MALATHION gives you quick, long-lasting fly control . . . quick knockdown *and* up to three weeks or more of residual kill. For these reasons and more, malathion is recommended for fly control by the USDA and officials of every state in the union.*

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- Easy to use as knockdown and residual spray made from wettable powder or emulsifiable liquid. Also available as dry bait.
- Kills DDT-resistant flies and fly maggots, too.
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The Original, Automatic Pressure Lock Coupling

For portable irrigation that works better with less work *and less upkeep*, see your McDowell dealer. He offers the best coupling made . . . will engineer a complete system for your particular needs . . . and he's staffed to give fast, expert service.

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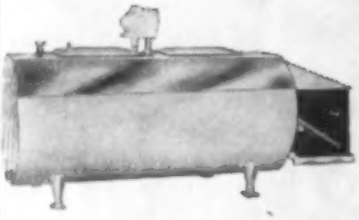

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- may be used as a pour-in tank, or with Super Strainer, or direct cow to tank hook-up
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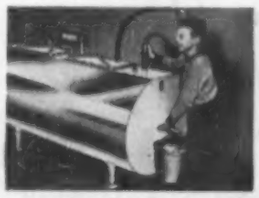

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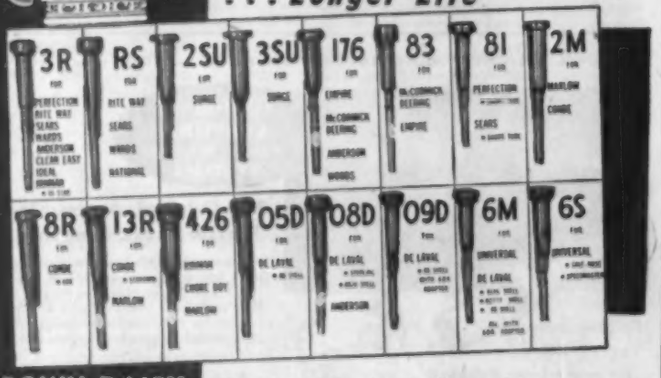

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All-American Sale of Starlets
SHRINE MOSQUE - 1:00 PM. JUNE 5th 1956
JERSEYS WITH A FUTURE
ALL-AMERICAN SALE OF STARLETS
JERSEYS WITH A FUTURE
HOARD'S DAIRYMAN

NATIONAL HEIFER DONATION SALE was promoted in this float on "National Jersey Milk Day," a part of the five-day program held during the 88th annual meeting of The American Jersey Cattle Club.

Missouri host to Jersey breeders

Kelly re-elected president . . . to expand All-Jersey program . . . junior sale averages $302.

MORE than 600 Jersey breeders and friends, largest turnout in the history of the organization, registered for the 88th annual meeting of The American Jersey Cattle Club, Springfield, Mo., early in June. The host committee, headed by Dale Maples, president of the Missouri Jersey Cattle Club, provided a varied program of activities for the meeting.

There was a huge dairy parade in connection with "National Jersey Milk Day." Jersey breeders Mr. and Mrs. Percy Smith of Joplin were recognized on a coast-to-coast radio program. Visitors spent one day watching the Missouri Parish Show. There was a trip to the School of the Ozarks. A donation heifer sale, dedicated to Jersey junior promotion, was held. The annual business meeting, held in the Shrine Mosque, climaxed the 5-day session.

Charles S. Kelly, Hudson, Wis., who succeeded to the presidency following the untimely death of President D. T. Simons, presided at the sessions. Kelly and several others credited Mr. Simons with much of the improvement in many aspects of the Club's affairs.

Operated in the black . . .

Compared to a $31,000 deficit the previous year, the club operated in the black by $13,000 in 1955. President Kelly also reported that the All-Jersey Milk Program has made substantial progress. He urged state clubs to seek a franchise to license distributors to carry on the program in their own area.

While registrations again declined from the previous year, there was a very definite slower rate of decline. He emphasized that the present board had no intention of granting another moratorium.

Kelly, who was re-elected president by a unanimous ballot, called for intensive promotion now in three fields: The Junior Jersey Program, the All-Jersey Milk Program, and the export of Jerseys to foreign countries.

He did not hesitate to call attention to some weak spots in the organization, referring to the production testing department (and steps being taken to correct this), the fact that frozen semen has complicated registrations, the need for a greater promotion effort on the three projects mentioned above, and the fact that directors-at-large might serve longer terms than is the case now, so they may become more familiar with the club's problems. As an alternative, he suggested the possibility of increasing the terms of all directors.

In his annual report to the membership, Executive Secretary Floyd Johnston stressed the economic importance of the efficiency of the Jersey cow, especially performance in relation to body weight, and the public acceptance of All-Jersey milk. The milk program is now in operation in nine states. More than 60 million pounds were sold last year under the All-Jersey trademark.

Registrations for the year totaled 58,882 — 53,174 females and 5,648 bulls, a decline of 2 per cent from last year. Artificial insemination continued its growth as 28.2 per cent of all Jerseys registered were the result of artificial insemination. There were some 500 fewer new buyers than last year, but an increase of 7 per cent in junior membership.

Fifty breeders qualified as Constructive Breeders. There were 848 herds with 28,918 cows on H.I.R. and 119 breeders with 1,038 cows on R.O.M.

Reporting that prices of milk and butterfat are predicted to average above last year, which should result in a substantial increase in cash receipts from dairy products, Johnston was optimistic in stating this should be a better year for the Jersey breed and the Club.

Hutcheson Master Breeder . . .

The Master Breeder Award went to J. L. Hutcheson, Jr., owner of Happy Valley Farms, Rossville, Ga. His herd of some 150 milking females is nationally famous for high milk production and winnings at the National Jersey Show. Mr. Hutcheson has been a director and president of the Georgia Jersey Cattle Club and also formerly served as director and vice-president of The American Jersey Cattle Club.

The Distinguished Service Award was presented to Judge Peter J. Shields, Sacramento, Calif. The certificate was accepted by Joseph Sawyer of California. Judge Shields, active in the organization and op-

eration of the California Jersey Cattle Club, has been recognized as one of the great evangelists for Jersey ownership. Now retired at the age of 94, he maintains an active interest in Jerseys. His herd has had more continuity of existence than any other Jersey herd in the West.

Opal Crystal Lady again . . .

The certificate for the living cow with the most butterfat in her life was again awarded to Opal Crystal Lady, owned by Ralph E. Cope, Jr., Langlois, Ore. Her production to January 1, 1956, was 181,022 pounds milk containing 9,714 pounds butterfat in 3,654 days. She was 14 years old in February. "Lady" is also the only cow of any breed to produce over 1,000 pounds of fat on 2x in each of five consecutive lactations.

The President's Trophy winner was Volunteer Noble Alice, owned by Mr. and Mrs. John Lindow, Independence, Ore. At the age of 10 years, 4 months, she produced 19,161 pounds milk, 1,097 pounds fat.

The election of directors was unusually calm, as was the entire business meeting. There was no contest for any of the board vacancies. Melvin Cording, Wallace, N. C., was elected to succeed George Harris, Ky. Charles B. Finn, Prairie du Chien, Wis., succeeds D. I. Dean, Ill.; and Harold Stanfield, New Burlington, Ohio, succeeds R. K. Stout, Mich. E. E. Greenough, Merced, Calif., was elected director-at-large. The directors chose Edgar Smoot, Centerville, Utah, as vice-president.

Next year's meeting will be held in Columbus, Ohio, on the first Wednesday in June, while the 1958 annual meeting will be held in Louisville, Ky.

Sale averages $306 . . .

In an effort to raise money for a youth program, the breeders have in the past suggested a donation sale. A committee was appointed, headed by director Evans Reese, Texas, and 44 registered Jersey heifers were donated. The sale averaged $302.60, bringing a total of $13,315.

Top price was $600, paid for a consignment by John Stiles, Maryland, and purchased by Herman Heep, Texas.

In addition to the heifers that were donated by breeders, trucks to haul cattle from Florida and New England were donated, as were the services of the auctioneers, ringmen, and readers of pedigrees.

Test subsoil for phosphorus

Subsoil tests for phosphorus could affect fertilizer recommendations, according to work done by J. T. Murdock at the University of Wisconsin.

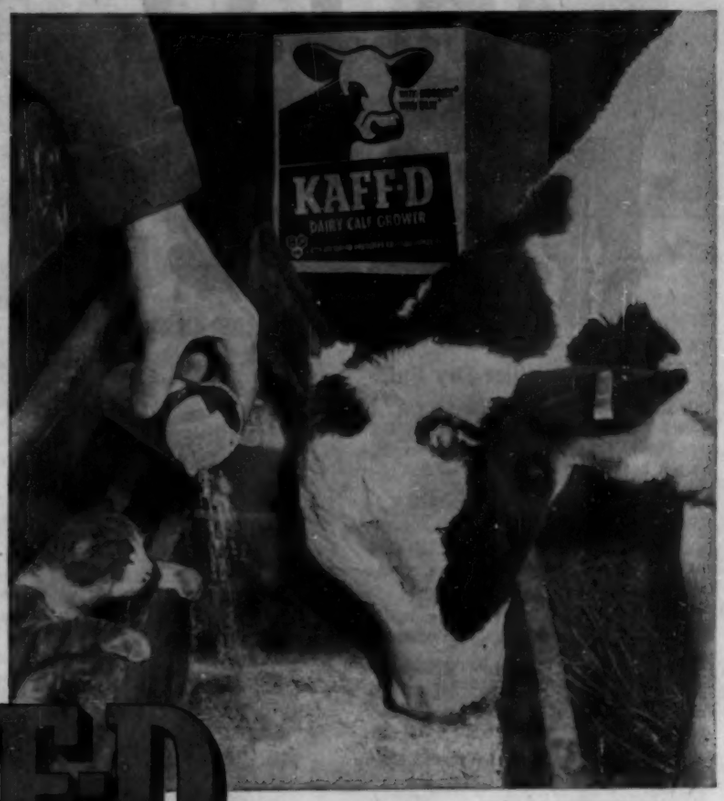
Using corn as a test crop, radioactive phosphorus was placed at depths up to 30 inches in four important Wisconsin silt loam soils. The results showed that the corn plant used 5 to 355 per cent more phosphorus from the lower horizons than it did from the 0- to 6-inch horizon. In general the largest amount of phosphorus from the subsoil was taken from the 6- to 12-inch depth.

This test seems to indicate that if the subsoil is high in available phosphorus, it may contribute more phosphorus to crop growth than the plow layer and should be considered when making fertilizer recommendations.

—WHAT'S NEW IN CROPS AND SOILS

You cut *nursing* cost to 12¢ per day with famous KAFF-A*

NOW! SLASH GROWING COST TO 5⅓¢ (out-of-pocket expense) PER DAY ON NEW KAFF-D



You cut nursing costs to half the cost of whole milk by starting calves on Kaff-A! It's the safe replacement for cow's milk that costs less than 12¢ per day for the first 6 weeks!

NOW—at an average out-of-pocket expense of only 5⅓¢ per day you can grow your calves into husky, healthy heifers on the same exclusive milk nutrients (Hidrolex* and DLW*) that are in Kaff-A! New Kaff-D will supply these fine milk nutrients for fast growth from the 7th week on! Kaff-D speeds growth without slowdowns. It stimulates rumen activity and develops big-barrelled, strong-framed heifers to add to your herd.

* Kaff-D supplies exclusive milk nutrients at low cost—flakes of Hidrolex pre-digested milk sugars and proteins; DLW whey fermentation vitamins, proteins, and minerals; plus oat and soya flour, animal fat, and vitamins A and D. One 50 lb. box or a 50 lb. bag of Kaff-D pellets fed with your own farm grains and hay, is all you need feed to grow a big 400-500 lb. heifer in 7 months!

Flash! KAFF-D PELLETS are now available in 50-lb. bags

*T.M's for milk by-products manufactured exclusively by Consolidated Products Co., Danville, Ill.

New KAFF-A and -D program supplies milk nutrients for less than $14 per calf!

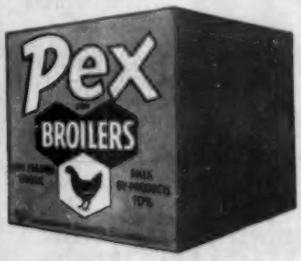
Just 25 lbs. of Kaff-A, the safe replacement for cow's milk, takes care of the entire nursing needs of an average calf (after colostrum). A 50 lb. box of Kaff-D will grow your calves out with the same high quality milk nutrition—the cost of both is less than $14.00.

Get a pail or box of Kaff-A for your newborn calves—and order a supply of Kaff-D for your older calves at the same time. Ask your milk hauler, feed dealer, or hatcheryman today!

A Pex PRODUCT FOR EVERY POULTRY PROGRAM!

KEEPS 'EM LAYING! PEX for layers contains HIDROLEX to supply energy, boost feed intake, DLW* to keep layers in tip-top condition.

FOR STARTING CHICKS—PEX is available in handy 10 and 25 lb. blocks to get chicks off to a fast start and help them grow. Put block down with chicks.



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ORTHO Fly Killer Dry Bait

This is IT! After years of research ORTHO gives you the newest, most effective fly killer ever made. Every granule kills *many* flies. Keep it handy to get rid of flies—FAST!

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Useful. Controls DDT resistant and non-resistant houseflies around sheds, barns, stables, pens and coops.

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Flies love it. This dry granule bait contains special attractives that lure houseflies.

Free running. Non-caking. Always loose, ready to scatter.

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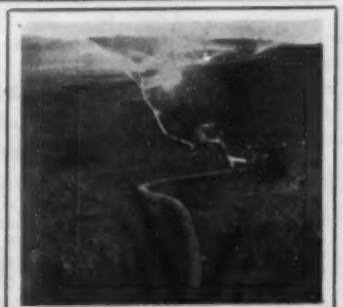

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Buy From Our Advertisers — They Are Reliable

D.H.I.A. pioneer honored

For his pioneering service to dairymen, U.S.D.A. presented Lyman Rich with its Superior Service Award.

by Edwin O. Haroldsen

LYMAN RICH, shown with his secretary, Mrs. Pickett, holds D.H.I.A. record which is calculated and printed mechanically in rapid procedure developed by him.

BACK in 1929, a young county agent created quite a stir in Utah's Wasatch County by staging a community livestock show at which the county's last scrub dairy bull was condemned by a jury —and shot.

A crowd of 1,500 turned out for the event. Signs were placed at county entrances with a picture of a bull and a notation that only registered sires were used in the county. Wasatch apparently became one of the first five counties in the nation to make such a claim.

That county agent was Lyman H. Rich. He's been doing unusual things for the dairy industry ever since.

Now past 60, Lyman received the coveted United States Department of Agriculture Superior Service Award June 5 in Washington, D. C. The award is in recognition of his work in starting the use of International Business Machines to figure D.H.I.A. records.

Started at county level . . .

In 1930, as he was finishing work for his master's degree at Minnesota, he was named county agent of Utah's largest agricultural county, Utah County. Lyman developed the best dairy improvement program of any county in the 11 western states. He enlarged the D.H.I.A. in the county and carried it as the only such group in the state through the depression years.

When he became extension dairyman in 1936, he organized new dairy herd improvement associations.

But then came World War II. Lyman wrestled with the problem of too few herd testers, incomplete records, and disappointed dairymen.

He decided that a centralized system of recording the D.H.I.A. records was the only solution. A centralized system of testing and record tabulation actually was begun in Utah's Weber Central area. Records were tabulated by hand. It worked fine except it was cumbersome and slow.

In 1949, Lyman went to Denmark and visited Emil Konradi, the world's first cow tester, also the recording offices of the Danish Testing Societies.

Women and girls were tabulating records by hand—records of 52 per cent of Denmark's dairy cows. Lyman began thinking something should be done to simplify and improve testing operations.

Upon his return to Utah, he found that the first IBM equipment delivered to Utah State Agricultural College (U.S.A.C.) had been installed on the campus under the supervision of Bliss H. Crandall, chief statistician and later assistant director of the U.S.A.C. agricultural experiment station.

Lyman happened to mention that he needed some calculations run on Utah dairy cow production. He said he guessed he'd have to get the work done in Washington, D. C. Crandall said he could do it right on the campus with the IBM machines.

Lyman expected that it would take several weeks to do the job. But the next day Crandall phoned to say it was all done.

That gave Lyman an idea. Why not put the D.H.I.A. records through the IBM machines. He went to see Crandall about it. Crandall said he thought it could be done — with work!

Rich and Crandall labored for four months, often until far into the night, to work out details of the operation. They had to figure

FIRST D.H.I.A. to place its records on IBM processing system was the Lewiston-Cornish association (Utah). Shown here is the president, Harold Lloyd (behind cow), and extension dairyman Rich.

out a way to code the figures, get them quickly from barn to IBM machine and back again, and many other details.

And above all, Lyman had to convert dairymen! But fortunately he got lots of fine help. Lloyd Hunsaker, Utah's other extension dairyman, assisted in much of the preliminary "leg" work.

Cache County agent Lamont Tueller went with Lyman to meet with President Harold Wood and directors of the Lewiston-Cornish D.H.I.A., which became the first to try the new scheme. LeRoy Cooley, veteran tester for Lewiston-Cornish, first started marking the new barn records.

IBM multiplication machines, urgently needed, arrived just in time. The machines, long on order, were released to U.S.A.C. by the United States government.

Shift took three months . . .

First records were run through the IBM machines in the basement of U.S.A.C.'s Old Main Building in January 1952. Within three months all of the big dairy herd improvement groups in the state had shifted over to mechanical record processing.

Through the leadership of Dean R. H. Walker of U.S.A.C.'s School of Agriculture and extension director Carl Frischknecht, dairy organizations were contacted and asked to help the U.S.A.C. finance the new venture. The dairy industry raised nearly $5,000. Lyman personally borrowed money to keep the program moving forward when funds became exhausted at one stage of the new operation.

In June 1954, he was instrumental in organizing the state D.H.I.A. Council with an executive committee of five to help with financial problems—and to decide future policies of the program.

As extension dairymen of other states became interested in mechanical processing of D.H.I.A. records and more cows were brought into the program, the computing service was organized as a private agency. It was moved to Provo, Utah, and became a regional office on July 1, 1955.

Lyman supervised the growing field operations, Crandall the IBM records. Crandall became the first to adapt to mechanical processing the 305-day breeding records and the so-called centering system.

As results of the operation became known, dairy leaders in Michigan, Illinois, Wisconsin, and other dairy states inquired for details and began setting up similar programs.

Serves several states . . .

By 1956, production records of approximately 24,000 cows were being handled at Provo. They include all the D.H.I.A. records in Utah and Wyoming, many of them from Colorado, New Mexico, Montana, Nebraska, and Nevada, and sample herds in Arizona, Idaho, and California.

Dairy officials in Holland and Switzerland wrote for information on the computing service Lyman helped set up.

The IBM setup now is coordinated with the U.S.D.A. sire proving program. The Holstein-Friesian Association has begun accepting for use in its breed record work the 305-day records made available through the computing service.

Thanks to improvements made as the program has progressed, the records have been greatly simplified. Herd testers weigh, sample, and test milk for each cow. They fill out a barn sheet reporting the amount of milk produced during the 24-hour testing period, the test for each cow, and quantity of feed consumed.

They send the original of this barn sheet to the regional computing center. The duplicate goes to the dairyman, who thus can detect any obvious errors and correct any conditions in the herd in urgent need of attention.

At the regional computing service, the barn sheet data is transferred to punch cards and the cards fed into IBM machines.

Aids farmer four ways . . .

The IBM machines eventually turn out the dairyman's cow-by-cow record in six copies. The information helps the dairyman in at least four important ways.

1. It shows him which cows are unprofitable and need culling.
2. It guides him in saving heifer calves from the highest-producing dams for herd replacement.
3. It shows the number of pounds of grain which should be fed daily for various productive levels. (This latter is based on a rule of thumb that it takes one pound of grain daily for each five pounds of butterfat produced per month.)
4. It releases the breeding records for the national sire proving program.

In addition, the records permit the dairyman to easily accumulate cows' records on a lifetime basis. Dates of calving, breeding, going dry, etc., also are recorded.

The first two of the six copies turned out by the IBM machines are mailed by the regional computing service direct to the dairyman. The first of these is for his permanent dairy record, the second for his barn record.

The third copy is mailed to the extension dairyman for filing. The fourth goes to the tester and is eventually turned over to the county agent for permanent keeping in the county. The fifth and sixth copies or barn sheets go to the tester for use in his next month's visit to the farm.

That test is recorded in this manner. On the right side of the barn sheets are blanks to record the milk weights, test, grain fed, and other data opposite each cow's name, number, and record for the previous month. The tester fills in the blanks after making the test.

Then he sends one copy to the regional computing service for coding and machine processing. He mails the other copy direct to the dairyman for a temporary and immediate record.

During previous years, the punch cards were run through the IBM machines twice, once for the current production records, and again for the testers' barn sheets. But this year, Crandall, Rich, and their associates revised the record sheets so that both types of information could be obtained from the one set of records processed by the machines.

Perhaps it sounds easy, in this day of mechanical marvels, to put dairy records on IBM punch cards. But Lenness Hall, sales manager for Carnation Milk Farms, Carnation, Wash., sized it up about right in writing to Lyman Rich a year after the project was initiated in Utah. Hall said:

"I am sure you must have had a great deal of grief in trying to iron out the bugs and to train your testers and the staff to do the work, but I believe the project is going to have a wonderful influence on the testing program and hence the dairy industry as a whole."

THE END

"IF YOU SPENT A THOUSAND DOLLARS MORE - YOU COULDN'T BUY A BETTER COOLER THAN DARi-KOOL!"
says
PHILIP ROETHLISBERGER
R.R. 1, Belleville, Wis.
DARI-KOOL
BULK MILK COOLER
MILK MAY BE POURED OR PIPED INTO THE COOLER
The ICE-BANK Cooler that Outperforms them All!
ELIMINATES MILK CANS AND CAN HANDLING
Model Shown is DKS — 300 (300 gallons)
Also available in 100, 150, 200, 250, 400, 500, 600 and 700 gallon capacities.

DARI-KOOL'S ICE-BANK AND GLACIAL WATERFALL ASSURE FAST, ECONOMICAL COOLING

Cutaway drawing shows how DARI-KOOLS ice-cold glacial waterfall flows down all sides and bottom of milk tank. A large reserve ice bank assures an ample supply of ice-water. Milk is cooled faster than by any other method.

Cools Milk Fast and Economically — and NEVER FREEZES Milk

Milk is cooled to below 38° in less than one hour —assuring a lower bacteria count and better milk.

DARI-KOOL tanks are much easier to clean because the inner milk tank — with its moist, refrigerated side walls, retards the formation of milk stone.

DARI-KOOL tanks are stainless steel — inside and out (not painted black iron). The rugged 10 gauge steel frame and bulge-proof milk tank assure accurate calibration and correct payment for the milk.

DARI-KOOLs are electronically calibrated.

Compare them all and you'll choose a farm-proven, guaranteed DARI-KOOL—America's largest selling bulk milk cooler.

MEETS ALL 3-A SANITARY STANDARDS

Send for new booklet "How to Choose the RIGHT Bulk Cooler"

AUTHORIZED DEALER DARI-KOOL BULK MILK COOLERS

DARI-KOOL's are sold and serviced everywhere. See your nearby dealer today or mail coupon for facts and figures.

DAIRY EQUIPMENT COMPANY
1444 E. Washington Ave., Madison 10, Wis., Dept. 184

Please send — without obligation to me — complete information about DARI-KOOL Bulk Coolers.

Name.....
Town..... RFD.....
County..... State.....

Farm Stationery!

Send for new circular with original suggestions and prices—Hoard's Dairyman, Fort Atkinson, Wis.

THE BEST HERDS ARE MILKED WITH LOW-VACUUM CHORE-BOY PIPELINE MILKING SYSTEMS

Chore-Boy's gentle, low-vacuum increases milk production up to 10% — reduces work up to 50%.

- LONG- AND SHORT-TUBE MILKERS
- PIPELINE MILKING SYSTEMS
- MILKING PARLORS
- RELEASERS

Send today for your FREE DAIRY BARN PLAN KIT — Write Department 38

FARMER-FEEDER CO., Inc.
Cambridge City, Indiana

CUT FEED COSTS 20%

WITH THE ORIGINAL "Little Britches" KRIMPER KRACKER—Stop wasteful feeding of whole grain. Low-cost "Little Britches" Krimper Kracker gentlemolds roller crimps any grain; makes 4 lbs. do feeding work of 5½. Pays for itself quickly. 16 sizes. Write for free literature, amazing cost prices.

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SUMMER SORES*

Chafed Udders, Foot Cracks, Wire Cuts, Teat Sores, Cowpox*

*Blu-Kote reduces pus formation, dries up secretions. It stays on. Effective against both bacterial and common fungus infections. Promotes rapid healing. 4 oz. dauber bottle $1 at drug and farm stores or by mail postpaid.

H. W. NAYLOR CO. • MORRIS, N.Y.

Don't Stop Buying U. S. Bonds

Normal rainfall is NOT enough!

FOR TOP YIELDS, MANAGE MOISTURE with GORMAN-RUPP IRRIGATION PUMPS

The big question about rainfall is not whether the year's total is normal, but whether enough falls at the right time. This rarely happens.

Even with normal rainfall, sprinkler irrigation makes sense. It makes even more sense to make sure your system is the best with a Gorman-Rupp Irrigation Pump, backed by the combined experience of more satisfied users than any other make.

Be practical about irrigation. Get an engineered plan. No obligation. Write Gorman-Rupp today.

26 MODELS in centrifugal pumps for every irrigation requirement. Pump-and-engine packaged units with automatic check valve with level control, shaft seal under suction, large drum-type fuel tank—operational safety controls standard. Engines: air-cooled, radiator, heat exchanger. Gasoline, LP, natural gas, kerosene and diesel. Also PTO driven pumps.

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THE GORMAN-RUPP COMPANY
305 Bowman St., Mansfield, Ohio

Keep Tab On Your Cows

Monthly Records Two Milkings	Price of a Year's Supply	Weekly Records Two Milkings	Price of a Year's Supply
10 cows, one month	$1.25	10 cows, one week	$2.50
25 cows, one month	1.75	20 cows, one week	3.00
35 cows, one month	2.00	30 cows, one week	3.50

For Three Milkings a Day — Price of a Year's Supply

15 cows, one month $1.50

All prices include postage paid. Your check perfectly acceptable.

HOARD'S DAIRYMAN Fort Atkinson, Wis.

DIPTEREX* Sugar Bait **FLY KILLER**

Fast...Easy...Odorless!
Just Scatter from Can!
OK'd for use in Dairy Barns!

Available in One and 10 lb. Cans

*Trademark of Farbenfabriken Bayer A.G., inventor and licensor to

Chemagro Corporation
New York, New York

Wisconsin makes Bang's history!

(Continued from page 667)

Some members of the State Veterinary Medical Association, irritated over personnel changes in the veterinary section of the Department of Agriculture, moved to divorce all disease control work from the department.

Strong men of considerable influence were aligned on the side of establishing a Livestock Sanitary Board separate and independent of the Department of Agriculture. The fight was bitter in this latter case. It was nip and tuck from day to day whether or not the Livestock Sanitary Board fight would not spill over into the brucellosis problem. Fortunately, the 28-Man Committee stayed out of the veterinarians' fight and kept the brucellosis issue unentangled.

The second issue which developed revolved around M vaccine. It will be remembered that several years ago M vaccine was widely hailed as a superior vaccine to Strain 19. While most research workers and students of brucellosis were suspicious of M vaccine's effectiveness, many breeders of registered cattle and some veterinarians were highly partial to it.

Into the midst of the development of the brucellosis program, then, was inserted another issue, whether or not to adopt M vaccine in place of Strain 19 or as an alternative for it. Here, again, the 28-Man Committee stood clear of a sideline move in order to maintain its solid front on the brucellosis program. The result was that M vaccine was approved for use in the state and subsequently failed. In the meantime, however, the state brucellosis program moved ahead.

The state committee was particularly fortunate to have three legislators as members. They were: Ora Rice, speaker of the assembly; John Pritchard, chairman of the assembly committee on agriculture; and Melvin J. Olson, chairman of the senate committee on agriculture.

Legislators lead . . .

Under the leadership of these three men, the program was submitted to the legislature. Surprisingly, what had been a hot political issue, too dangerous to handle, became a popular issue in the minds of the assemblymen and senators. The program was adopted by a unanimous vote in the senate and with only two dissenting votes in the assembly. The bill, with its accompanying appropriation, was signed into law July 14, 1951 by Governor Walter J. Kohler.

Immediately after signing of the law, Director McDowell, with his state veterinarian, Dr. Harry J. O'Connell, and the federal veterinarian in charge, Dr. W. R. Winner, started the ring testing. Blood testing and vaccination proceeded rapidly, too. In the fiscal year ending June 30, 1952, 1,469,000 animals were blood tested; 151,000 reactors were found, and 446,000 calves were vaccinated.

In the beginning, members of the committee thought it would be a reasonable goal to completely wipe out the disease in 10 years. That the goal was accomplished in half that time is all the more remarkable when you consider that Wisconsin has more than 2,600,000 cows and heifers over two years of age. It has a total cattle population of 4,384,000 cattle and calves. It is estimated that 662,000 heifer calves are raised annually.

When the first ring tests were run, 41 per cent of the herds in the state were positive. On the basis of complete testing of the entire state, it was estimated that over 5 per cent of the cattle in the state were reactors.

Following the launching of the program, the work developed into a day-after-day task of grinding out the tremendous volume of work required. The peak in work load, of course, was reached in the fiscal year just ending. During the 11-month period, July 1, 1955 to May 31, 1956, the State Department of Agriculture ring tested 243,846 herds. It blood tested 86,229 herds with 1,751,004 cattle. Approximately a half million calves were vaccinated.

During this campaign four significant developments took place to speed the state on its way to a brucellosis-free status.

In 1954, the interpretation of the blood test was revised as a result of the leadership of Dr. S. H. McNutt, University of Wisconsin veterinary scientist. Previously there had been no distinction between reading the blood test of a non-vaccinate and an official calfhood vaccinate. Dr. McNutt, in cooperation with fellow scientists from other states and U.S.D.A., presented evidence supporting a change to the National Brucellosis Committee and the U. S. Livestock Sanitary Association.

Vaccinates recognized . . .

As a result, in 1954, the livestock sanitary authorities approved the new reading of the blood test when applied to official vaccinates. Previously a reaction of 1 to 100 would have been declared a reactor. Under the new classification an official vaccinate must react complete in a dilution of 1 to 200.

This 1954 action reduced greatly the number of vaccinate reactors which were unnecessarily being considered as infected.

At about this same time, another significant development occurred on the national level. Congress, in 1954, approved a $15-million federal appropriation to speed up the national brucellosis eradication effort. Because of Wisconsin's already active, progressive program, it received a healthy share of the increased funds. Particularly significant was the raising of the federal indemnity contribution from $8 to $25 maximum per head for reactors removed.

During this same period of time, farmers in all Wisconsin counties were signing up rapidly for Plan A or clean herd status. Leading in the sign-up program were local Farm Bureau members who adopted the state program as one of their major projects of work. Their leadership in many counties was great. Their door-to-door petition carrying, combined with the educational and organizational leadership of the Extension Service of the University of Wisconsin, greatly stepped up the campaign.

It was early recognized that under the program most counties would sign up in a reasonable period of time. It was expected, however, that a few counties would delay final action as long as possible. This problem was effectively and quickly solved by legislation introduced by Senator Foster Porter in June of 1955.

He asked for authority for the director of agriculture to declare

the entire state on Plan A when 75 per cent of the counties had voluntarily signed up on the Plan A program. The bill moved through the legislature rapidly, was signed into law June 20, and became effective immediately because 75 per cent of the counties were already signed up.

The entire state then was on Plan A. This did not mean, however, that it was brucellosis-free. The work of testing, removal of reactors, and re-testing had to go on until every county had less than 1 per cent of the cattle and 5 per cent of the herds brucellosis-free. This was accomplished and reported June 2.

Incidentally, it is only fair to report that shortly after the announcement was made in Wisconsin, U.S.D.A. approved the state of Washington as a brucellosis-free state. U.S.D.A. declared that Washington would be declared brucellosis-free as of June 1. Wisconsin's effective date was June 6.

To appreciate the magnitude of the Wisconsin effort, we can look at the actual dollar costs to the state and federal governments. In the entire period from 1934 to date the state and federal governments have spent close to $30 million in the Wisconsin campaign. Of this total, approximately $16 million were spent in the past six years. In that time, the state spent $9,800,000 and the federal government $6,400,000.

The cost has been, admittedly, high. This is largely due to the tremendous cattle population and the state's decision to pay all vaccination and testing costs as well as indemnities. It was the belief of the legislators (not the farmers) that these costs should be borne by the state because they felt that a fast clean-up campaign would be less expensive in the long run than a long, drawnout war of attrition.

While Hoard's Dairyman agreed with most farmers that government funds should not be used except for testing and involuntary removal of reactors, we must concede that the arguments of Wisconsin legislators have been verified by experience. Future costs will drop off drastically as the state and federal governments cooperate to locate those few reactors which may crop up from time to time.

It would be difficult to credit any one person, organization, or group for the success of Wisconsin's clean-up. Perhaps the single factor most responsible for success was the willingness of all parties to reconcile their differences for the sake of agreement and unity of effort.

Certainly, Director McDowell displayed extraordinary skill and diplomacy in getting all groups to work together in harmony. Dr. H. J. O'Connell (who is now state-federal veterinarian) proved an unusually capable administrator of the program. But basic to all this was the recognition by Wisconsin farmers that this costly disease need not remain as a constant threat to the health of their herds and a drain on their pocketbooks.

It was a splendid team effort.

THE END

DAIRY DIGEST

FORAGE DAY IN CONNECTICUT

The Agronomy Farm at Storrs, Conn., will be the scene of a Forage Day, July 18. In addition to witnessing demonstrations and a tour of experiments involving forage production, visitors will hear an address by Dr. L. F. Graber, professor emeritus of agronomy at the University of Wisconsin.

In case of rain, the program will be postponed to the following day.

CHICAGO PRICE UP 46 CENTS

Dairy farmers who shipped milk to the Chicago Market during May received prices for their milk 11 cents a hundred pounds more than April and 22 cents more than March.

This is the first time in 15 years that the May price has been higher than April. It is only the second time this oddity has occurred in the 18-year history of Federal Order 41 in Chicago.

Dairy farmers who shipped to the Chicago Market received two prices for May milk. The base price was $3.75. The excess price was $3.35. Both prices were for 100 pounds of milk, testing 3.5 per cent butterfat delivered to plants in the 70-mile zone.

The base price of $3.75 was paid to a farmer for an amount of milk delivered which is equivalent to his average production during September, October, and November 1955. The excess price of $3.35 was paid for all milk delivered over this amount.

Harry Edwards, director of marketing for Pure Milk Association, said that May prices were 39 cents above May 1955.

Edwards attributed the increase in prices to four things:

1. Higher prices paid by dealers for milk used in bottling and similar purposes. This price was increased by 46 cents a hundred pounds on April 16 as a result of bargaining by Pure Milk Association with Chicago dealers. May was the first full month in which effects of the bargaining increases were felt. For April, dairy farmers received the effect of only a half-month's price increase on milk used for fluid purposes.

2. Increases in sales of bottled milk and cream over May, 1955. During May, dealers sold 6.5 per cent more milk (11.5 million pounds) as packaged fluid milk than in May 1955. In addition, they sold 8 per cent more milk (5.5 million pounds) for cream, ice cream, and cottage cheese uses.

3. Decrease in production. During May, production was 3 per cent less (13 million pounds) than in May 1955.

4. Slight increase in the support price of manufactured dairy products.

P.M.A.'s marketing director said that the dairy farmers shipping to the Chicago Market would continue to benefit during June and July from bargaining increases obtained during April. He said, also, some price benefit may accrue to dairy farmers on the expectation of lower production. Seasonal production reached a peak early in June and has taken a downturn. This downturn, combined with sales increases of fluid milk would strengthen the farm price for June and July.

By the time a boy gets old enough to know how much he owes his parents, some girl comes along and gets most of the interest.

HEAT AND HOT WATER
IN 1 COMPACT UNIT
MILKHOUSE CHORES COMPLETED IN LESS TIME AND GREATER COMFORT
"WATER-AIR"
ALL THE WATER YOU WANT—
HEAT WHEN YOU NEED IT!
BLOWER DRIVEN HEAT KEEPS CEMENT FLOOR WARM AND DRY

Handley-Brown "WATER-AIR" is the original combination water and warm air heater for milkhouses.

The growing need for ample hot water in the milkhouse is met with the "WATER-AIR's" fully automatic thirty gallon, fast-recovery hot water service. Healthful blower-driven warm air provides comfortable working temperatures even in coldest weather. Automatic heat keeps unsanitary moisture from walls and ceiling — shuts off when you don't require it. Combining both a water and warm air heater in one appliance saves space in your milkhouse too. Amazing economy of operation is yours with the "WATER-AIR's" exclusive *proven* heat exchanger. Thousands in use.

Write for complete information.

HANDLEY-BROWN
HEATER COMPANY
176 BROOKLYN RD. JACKSON, MICHIGAN

Manufacturers of a Complete Line of Gas Water Heaters and Conversion Gas Burners

Experienced Sale Managers use Hoard's Dairyman extensively to advertise their sales of good cattle. They KNOW that it pays.

Attention!

SPECIAL SUMMER SCHOOLS

For the convenience of those unable to attend our winter classes, also for the benefit of high school young men and college young men who are interested in cattle (Dairy or Beef)

"SERVING CATTLEMEN FROM COAST TO COAST SINCE 1909"

FOUR SUMMER CLASSES WILL BE CONDUCTED: 1956.

Houston, Tex., Texas State Hotel	July 10-14
Tulsa, Okla., Tulsa Hotel	July 17-21
Miami, Fla., Alcazar Hotel	Aug. 14-18
Columbia, S. Car., Wade Hampton Hotel	Aug. 21-25

Write for catalog. Make reservations early. Student number limited.

GRAHAM SCIENTIFIC BREEDING SCHOOL

DEPT. HD, 216 EAST TENTH STREET, KANSAS CITY 6, MISSOURI

7 DAYS WILL CONVINCE YOU!

Perfection Milkers are best for your cows, too!

A few minutes now pays off in 10,000 hours of easier, faster milking

SIDE-TO-SIDE ALTERNATING ACTION makes the difference. Pail rocks gently from side to side as milking stroke alternates with soothing massage. It's the easiest milking action you ever saw *and faster, too!* Weight is borne on the cow's back. Completely eliminates the back and forth swinging of a loaded pail that may stretch teats and udders.

Ask your Perfection Dealer for 7-day Free Trial or write for Folder

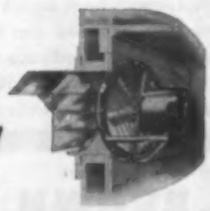
Perfection MANUFACTURING CORPORATION

2125 E. Hennepin, Minneapolis 13, Minnesota

Dry Pine Shavings

Baled or bulk. Carloads only. Write for prices. JAGERSON FUEL CO., Phone Parkway 2-3411, Neenah, Wisconsin.

Hot Sticky Smelly Barn?



A Louden Ventilating System is the answer

More than just a fan

Keep yourself comfortable, production up and animals healthy during the months ahead. A Louden Ventilating System controls temperature, moisture, air movement, odors. A Louden ventilating engineer plans the installation for you at no extra cost. System includes exhaust and intake fans, intake valve and spreader, plus dual controls—thermostat and timer allowing adjustment of capacity to take care of sudden changes in weather and number of livestock housed. An engineered system. Louden ventilation is effective in all seasons, under all conditions.

Year-round and seasonal systems available for all buildings that house livestock or poultry. See your Louden dealer or send postcard for illustrated folder.

The Louden MACHINERY COMPANY

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HANDY HINTS

PROTECTS TRIP ROPE

Using a simple hook arrangement, we keep the trip rope on our plow from breaking.

We took a steel triangle with an open corner from an old milking machine strap and bolted this to the tractor seat. Then we made a hook out of a steel rod.

The rope is tied to the steel hook and that is snapped into the triangle. This makes it possible to hook or unhook without having to tie or untie the trip rope. If you forget to unhook the rope it will not break, for as you drive off with the tractor, the hook will unsnap.

Illinois ROBERT SEYLLER

INEXPENSIVE OUTDOOR GRILL

This outdoor grill can be made in just a few minutes. All you need is an old 10-gallon milk can and a discarded milk strainer.

Slit holes all around the can about a foot from the bottom. Set the strainer in the can. Put hardwood charcoal into the bottom of the strainer. The rack can be from an old stove or one may be cut from heavy duty mesh wire. That is all it takes for loads of fun and good outdoor eating when the milking chores are done.

Georgia. MRS. J. A. BARKER, SR.

USE FOR SALT SHAKERS

Large salt shakers, no longer used in the kitchen, make wonderful containers for applying lice powder to cattle. They can also be used for other powders that are to be applied to animals.

Apply powder and rub in.

Minnesota ANN ZAWISTOWSKI

OIL HARD-TO-GET-AT PLACES

To oil those hard-to-get-at places, take a very small copper tubing, such as a gas line tube. Fit this in oil opening; bend and extend it to where it should go and drop the oil in the tube.

Colorado MRS. HELEN DALEY

MILK CAN LID RACK

Ralph Wooters, Illinois, made this simple lid rack by using long bolts and strap iron. Bolts are held rigid through use of two taps, one on the front and one on the backside of the strap iron.

Illinois C. F. MARLEY

STOP PONDS FROM LEAKING

If your newly-made pond will not hold water, try putting a few blocks of salt on stakes scattered evenly along the lowest part of the bottom. The cattle's smooth hoofs and incessant moving around will tramp the bottom tight and, in many cases, seal up the loose earth and make a good pond.

Maryland J. MARSHALL PORTER

COVERS GUTTER CLEANER

Dairyman John Eliades, Ayer, Mass., got tired of having the outside portion of his gutter cleaner get wet and freeze up in winter so he covered it with aluminum roofing. He fastened it down for a neat looking job that won't blow away. His gutter cleaner will last longer, too.

New Hampshire C. L. STRATTON

Full two chopper capacity

with the

KOOLS

P T O DRIVEN FORAGE BLOWER

- Straight-thru-Feed, Power-Take-Off Drive and 48" Fan provide tremendous capacity — with low hp requirements.
- Three-wheeled mounting and P T O Drive provides
  — Fast set-ups
  — No staking
  — No "lining-up"
- Wagon Unloader — Unloading Rake—Optional.

KOOL BROTHERS, INC.

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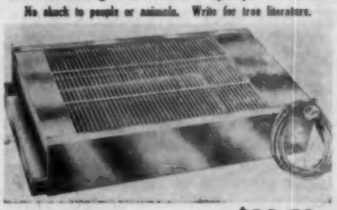
INSECTS KILLED BY THE BUSHEL

Without Dangerous Poison Sprays or Dusts!

No shock to people or animals. Write for free literature.



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INSECT ELECTROCUTOR is portable, easily attached wherever most needed. Operates on regular 110-120 volt A.C. current. Fooiproof, all-metal construction 24" x 14" x 5". Simply plug in.

Have comfortable, insect-free porch, rooms all summer . . . clear barns, sheds of disease-bearing insects. Just 30c a month to operate. Buy two . . . protect both home and barn. Mail check or money order to:

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POULTRY

Joe W. Sicer

The thin shell problem

Thin, rough egg shells will lose money for the poultryman. Lack of lime isn't the only cause.

IT IS certainly aggravating to have an egg crush between your fingers as you pick it up and spill its contents all down through what was a basket of nice clean eggs.

And that is just what often happens when for some reason the hens are laying thin-shelled eggs.

Or, maybe the eggs aren't thin enough to break that easily, but they are somewhat thin and rough. They are bad enough so that if you are selling your eggs on a graded market, good fresh eggs would be graded "C" instead of "A". If you are selling hatching eggs, the thin-shelled eggs do not hatch as well as the eggs with strong, sound shells.

Thin-shelled eggs are a loss, not only to the producer, but also to the egg buyers and retailers. They break easily during handling and transportation and the thin shells allow the moisture to evaporate more quickly from the egg, lowering its interior quality.

The problem can be very aggravating to the producer since it is often not possible to put a finger on the exact cause of the condition and correct it. There are problems about thin shells to which we do not know the answer.

A number of factors, however, are definitely known to have a bearing on the formation of poor shells. They include the bird, her feed, and her environment.

Lack of lime . . .

An egg shell is almost entirely lime (calcium carbonate). Oyster shell and limestone grit are two common sources of lime for poultry. The hens will usually eat enough of either one if given a chance to do so. Unfortunately, however, in many cases the oyster shell has been dumped in an old granite pan sitting on the laying house floor and the birds have scratched in so much litter that the shell can no longer be seen.

The shell must be offered attractively in readily accessible hoppers that are high enough above the floor so that litter will not be scratched over it. A partitioned end of a mash trough is also a good place to put the oyster shell.

Hens often dislike finely-ground oyster shell and may not eat enough of it for their needs. Use coarse shell.

But regardless how much lime a hen eats, she cannot make full use of it unless she also gets enough vitamin D. This vitamin is necessary for the proper assimilation of the lime.

Both the quantity and the quality of the vitamin D supplement used in the ration should be checked. Cod liver oil and dry vitamin D_3 are available in varying potencies. One may contain 75 units per gram, another 400, and another 1,500 units of vitamin D. When hens eat about equal parts by weight of grain and mash, a ton of mash should contain 10 pounds of a 400-D cod liver oil or its equivalent.

Manganese also plays a part. It takes just a little (2 pounds of manganese sulfate per ton of mash) but without that "little," shell quality suffers.

Bronchitis wrecks quality . . .

Infectious bronchitis and Newcastle disease seriously affect both shell quality and interior quality. Following bronchitis, especially, thin, rough shells can be expected for a long time. In some cases, the shell-forming organs are so affected that normal shells are never again produced. Extra lime and vitamin D will not correct the condition when caused by these diseases.

Worse in hot weather . . .

Whenever the temperature gets to 80 degrees or higher, the ability of hens to form strong, sound shells is reduced. Then, too, regardless of temperature, after eight or nine months of steady production, many hens are apparently unable to do as good a job of building shells as they did at the start of the year's work.

Occasionally, soft-shelled eggs may be laid because of an injury sustained by individual birds. A flock that becomes badly frightened and flies wildly about may drop many soft-shelled eggs the following day or two.

Certain birds may lay thin-shelled eggs frequently, regardless of what they eat. The undesirable trait may be characteristic of a large number of birds of certain strains. Hens producing sound, smooth-shelled eggs can be developed by selective breeding. Do not be too quick to blame the hen or the hatchery, however. Be certain you have eliminated all other possible causes before you start looking around for a different strain for next year.

What can be done?

Make certain that the birds have available and eat an abundance of coarse oyster shell or limestone grit. If you have trouble, check with your feed man about the amount and kind of vitamin D supplement in the mash. Check with him also about the manganese and verify his information by reading the tag that comes with your bag of feed.

Watch closely the proportion of grain fed to mash eaten. The vitamin D and manganese in the mash won't do your hens any good unless they eat enough mash.

In the summer, do what you can to hold the temperature in the laying house below 80 degrees. Ventilate from the cool, north side of the house. Provide cross ventilation. Whitewashing or painting the roof white helps by reflecting the sun's rays instead of letting the roof absorb them.

We are asking our hens to manufacture a lot more eggs for us than nature ever intended for them to lay. It's up to us to help them out as much as we can.

Smoker SPECIAL ELEVATORS

for the highest reach at the LOWEST COST

Smoker "SP" Farm Elevators are the lowest priced elevators per foot of usable elevating reach. Built in 3 sizes; 24', 30' and 36'.

COMPARES WITH ANY ELEVATOR BUILT

- 60° elevation with safety
- Top drive to pull load up
- Extra-deep "slip-on" flights
- 20" wide trough
- Greased for — long — life bearings

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SMOKER FARM ELEVATORS, INC., Intercourse, Pa.
I am interested in:
"SP" Series Elevators ☐ "S" Series Elevators ☐
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DAIRY FARM HOME

If you are "bothered by the heat" and suffer all the discomforts that can be read into that old saying, you may be among those seeking . . .

—Courtesy Kelvinator, American Motors Corporation

ROOM AIR CONDITIONERS are designed with an eye to attractiveness as well as good performance. Many of them come in neutral colors — beiges, sandalwoods, or ivory—with gold trim, harmonizing with most furnishings.

Comfort with Air Conditioning

by Margaret Speers

AIR conditioning is here to stay. Ask any family who has it. It not only brings cool comfort, but has been credited with more dust free homes, sounder sleep, better appetites, and happier dispositions as well. It may be just the thing that can make summer more enjoyable for you. At least it bears looking into.

Before you go shopping . . .

You and your family must decide where you want air conditioning. If you want to cool only one or two rooms, room air conditioners are the answer. If you want your entire home air conditioned, you will need one of the large residential units that are installed in the attic, basement, utility room, or outside the house, or that can be operated in conjunction with your heating system.

Room air conditioners are usually mounted in windows, but many are adaptable to built-in or through-the-wall installation. Keep in mind that they are available for both casement and standard windows. Be sure to check on **how** the units can be mounted in windows. Some can be mounted only in certain positions whereas others have adjustable mounting so they may be set in any window position from front flush with draperies to the point where entire unit projects into the room, or anywhere in between.

What will the unit do?

Most standard air conditioners cool the air, remove moisture from the air, and circulate the air. Some deluxe models, however, also clean the air of dust, lint, soot, and pollen (a feature to benefit "hay fever" sufferers); provide a heating unit for warming air when it's chilly; and filter out odor and fumes. Shop around for the models that will do the things you want.

Other features to check . . .

Is the unit attractive? Most are much handsomer than they used to be. Many models have fronts made of tough sound-deadening plastic that simulates leather-graining or wood finishes such as mahogany. One manufacturer has a model with a drop-front door so the unit can be closed when not in use. All this makes the units look more like furniture.

Check on colors, too. For the most part manufacturers have stuck with neutral colors and gold trim, so units harmonize with both modern and traditional furnishings.

Find out if the unit is a quiet operator. Ask about spring mounting, rubber cushioning, and cabinet insulation — things which make for quiet operation.

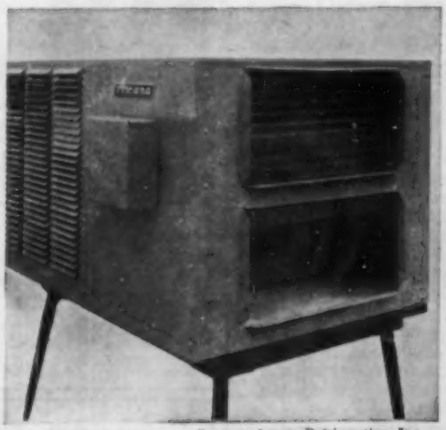
Check to see if the unit is easy to clean and dust. Is any special cleaning of filters required? Does the unit have an adjustable thermostat? What kind of control does it have and how much selection does it offer? Some models offer as many as six different combinations of cooling, dehumidification, and ventilation.

Check with reliable dealers . . .

Only surface highlights have been touched here. The details of size and capacity, installation, wiring, performance, current consumption, servicing, and so forth, should be discussed thoroughly with dealers whom you know to be reliable. From your findings, select the air conditioner that will give you the most pleasure and comfort. **THE END**

—Courtesy Servel, Inc.

UNITS ARE MADE for adjustable installation — from flush mounting to a point where entire unit is in room. Many deluxe models have controls giving choice of temperatures.



—Courtesy Amana Refrigeration, Inc.

LARGE CENTRAL UNITS for cooling entire house come in many sizes and types. The unit shown above comes in 2 and 3½ h.p. sizes and can be installed inside or outside the house.

—Courtesy Amana Refrigeration, Inc.

ROOM MODEL has timer that automatically turns unit on and off. The activated charcoal filter traps odors and a "chill-check" unit provides heat when the temperature becomes chilly.

From Day to Day

by Lois J. Hurley

IN THE land where I was raised (Missouri) we always had ripe strawberries and lettuce from the garden on my birthday, which is May 9. In the land of my adoption (Wisconsin) we're lucky to get homegrown berries by the Fourth of July, so they're just now in good season.

We talked about uncooked jams in a last summer's issue but I'll just remind you of them, now that strawberries were, are, or will be ripe (depending on the part of the country you live in).

Uncooked strawberry jam has fresh fruit color and flavor and will refrigerate a couple of months or you can freeze it. If the berries tend to separate after standing, simply stir to blend.

For 9 or 10 six-ounce glasses of jam, crush **2 quarts of fully-ripe, sound fruit** and add **5 cups of sugar** to every 3 cups of crushed fruit. Dissolve **1 package powdered pectin** in **1 cup water** and boil for 1 minute. Add this solution to the sugared crushed berries and stir for 2 minutes.

Ladle into jelly glasses and let stand 10 or 12 hours or until fruit has jelled. Seal with hot paraffin; cover and store, either in refrigerator or freezer.

French fries . . .

The weather never gets too hot for the menfolks to enjoy French fried potatoes, it seems, but it certainly gets too hot for the womenfolks to enjoy making them. It's easy to prepare par-fries and keep them for several months in the freezer, according to tests by the U.S.D.A.

To make good French fries, choose a mealy baking potato; pare and cut into lengthwise strips about ⅜-inch thick. We have a gadget my husband bought along with the deep fat fryer through which you push the potato and it comes out cut for French fries.)

Rinse off the starch in cold water and dry the potato strips on paper towels; no need to soak for a long time. Heat fat in deep-fat fryer or deep pan with thermometer to about 375 degrees and fry the drained strips about 5 minutes or until they're a golden brown. Use only one layer of potatoes; more than that in the basket will cool down the fat and cause it to foam over.

For immediate eating, salt and serve. If you want to hold for later use, lower fat temperature to 360 degrees and fry for 4 minutes. These par-fries will hold for about 4 hours at room temperature or a day in the refrigerator. Or, put them in moisture-proof bags and freeze for several months.

To finish off par-fries, fry in 375-degree fat for 1 minute or heat 10 minutes in 500-degree oven or run under broiler 5 minutes.

Does it pay?

I listened in horror last fall at an editors' meeting in Ohio while young farm families wondered outloud if having a garden pays. Some didn't think it did, figuring the time and energy it took on the part of the farm wife who is so busy in so many other ways.

All of these families had food freezers, though, and I wondered if they would be a paying proposition if the food that goes into them had to be bought. Personnally, as a non-farm homemaker, I've never been able to convince myself that a freezer would be a paying proposition for my family. A convenience of sorts, yes; but not a money-saver.

So, I was interested in a recent release by one of our Wisconsin food specialists on the costs of a food freezer.

The cost of frozen storage runs from 10 to 28 cents a pound of food stored, she says. This includes the price of the freezer spread over a 10-year period, depreciation, repairs, and electricity to run it for a year. The big spread lies in the number of times you refill your freezer; a two-or-three-times-a-year filling cuts the cost downward.

To figure your labor costs or savings, total the cost of producing or buying the food to put in the freezer, packaging materials, and fuel. Credit the difference between this total and costs of buying similar foods in the market.

Of course, food freezers have their convenience value over and above their function as the container of frozen fruits and vegetables. The pies, cakes, rolls, breads, and special dishes that go into the freezer and come out ready to turn into crisp, tasty treats in short order have a value that would be hard to figure.

Raisin pie . . .

Speaking of freezing, reminds me to share with you a raisin pie recipe that a reader-friend sent from Ontario, Canada, following my recent complaint that I could not bake a good raisin pie.

For a 9-inch pie, Mrs. Anne Peart recommends:

2 cups water
2¼ cups raisins
¼ cup granulated sugar
3 tablespoons flour
½ teaspoon salt
1 tablespoon orange rind
½ cup orange juice

Heat water to boiling; add raisins; turn low and simmer for 10 minutes. Combine sugar, flour, salt, and orange rind and add to hot mixture, stirring constantly. Add orange juice and continue to stir until mixture thickens. Cool. Pour in pastry-lined pie plate; cover with top crust and bake 10 minutes at 450 degrees. Reduce oven temperature to 350 and bake until done.

Mrs. Peart says she often doubles the ingredients and stores the filling in the deep freeze.

Incidentally, if you're a weight-watcher, as most women are, just leave a serving of pie filling out of the crust for yourself, as your dessert. Putting it in a pie crust sends the calories soaring.

Fresh, fully-ripe fruit makes delicious, low-calorie desserts and should abound during the summer months. Dip berries in just a "tip" of sugar if you like; there's nothing more delicious than luscious strawberries or raspberries dipped in just a thin coating of sugar and popped into the mouth. They make an elegant dessert for a luncheon or breakfast. Arrange them in an orderly fashion on cool, green leaves from their own vines and bring to the table right from the refrigerator, with a small glass of sugar in the center of the plate.

9153. A basic fashion for a smart summer wardrobe, its classic lines take so beautifully to every fabric. Misses' sizes 12 to 20; 30 to 42. Size 16 takes 4 yards 35-inch; ⅝ yard contrast.

9264. So flattering to every figure. See the clever bolero-effect of its bodice and the graceful long-torso lines above its flaring skirt. Misses' sizes 12 to 20; 40. Size 16 takes 4⅝ yards 35-inch; ⅝ yard contrast.

4722. Graceful sundress in long-torso effect becomes a city-going fashion when you button on the clever collarette. Misses' sizes 12 to 20. Size 16 dress, 4 yards 35-inch; collarette takes ⅞ yard.

9008. Designed especially for the half-size figure; a jiffy to sew and iron. Half sizes 14½ to 24½. Size 16½ takes 3⅝ yards 35-inch fabric.

9038. Mix-match these pretty blouses with all your skirts to make a wardrobe of fashions. Misses' sizes 10 to 20. Size 16 upper version, 1¾ yards 35-inch; middle version, 1⅞ yards; lower, 2 yards.

9060. Prettiest summer ensemble designed especially to flatter the shorter, fuller figure. Half sizes 14½ to 24½. Size 16½ dress, 4½ yards 35-inch fabric; bolero, 1⅞ yards.

507. Lifelike roses in color sparkle on this stunning oval doily. Oval doily 32x15 inches, in No. 30 mercerized cotton; smaller in No. 50 cotton.

7052. One yard of 35-inch fabric can make this pretty apron. With a stroke of your iron, flowers appear in combination of blue, yellow, and green. Tissue pattern and washable color transfers included. Medium size only.

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Three to get ready

Here are some suggestions on how to make your child's hospitalization easier. Preparing for the occasion is extremely important to both parents and child, if there is time.

by Marjorie Scholz Christoph

YES, there are three to get ready before Junior goes to the hospital, Mother, Father, and not until then, Junior.

Children are hospitalized more frequently these days in order to make use of the facilities available there for diagnosis as well as for chronic and acute illnesses. Many families may find themselves facing this problem in the coming months.

Doctors, psychologists, nurses, and hospital administrators have some suggestions for the family in this situation and their first is concerned with the parents.

They feel that the child senses when his parents are confident and relaxed. When he is about to enter the strange new world of the hospital, he needs that security and will respond to their positive attitudes by being assured himself.

Therefore, Mother and Father should make every effort to get answers to any and all questions in their own minds first. Their doctor will be their first consultant and will be happy to describe the procedure he anticipates in the case. If practical, it would be helpful for the parents to visit the hospital to learn the regulations and privileges they can expect and will be expected to abide by.

Answer his questions . . .

It is not necessary to tell the child all these details. Excessive knowledge might overwhelm him. But if he feels free to ask questions with the assurance that they will be answered, he will be more comfortable. If there has been previous illness experience, reassurance is all the more necessary.

Most libraries have, or can get, one of the books written recently to be read to the young child to help prepare him for hospital "adventures." These are helpful, but most authorities agree that they should be used with, and not take the place of, explanations by Mother or Father.

In continuing the home situations, such things as a beloved toy, a favorite blanket, or other reassuring object are doubly heartwarming at the hospital.

Doctor and nurse important . . .

If asked their preferences, most children would request the care of the known family doctor who has helped relieve discomfort so often before. You are fortunate if your family doctor can be in charge of this hospital experience as well. If a specialist is necessary and time allows, permit a period of getting acquainted before hospitalization. In more hurried cases, most children will feel better if their family physician introduces the new doctor and returns to visit whenever possible.

The nurse is important, too. Has it ever occurred to us that children like to call people by name and be called by (the correct) name? Making these introductions, as well as knowing what to expect of the nurse, how he can call her, etc., will go a long way in building a friendly relationship.

Some parents have found it helpful to provide some little gift for the doctor or nurse to present to the child and thus win his affection for these important people during the trying days.

Explain ahead of time when you will be leaving so that when the hour of separation comes it will not be a surprise. Visiting hours for pediatrics are usually very liberal and the little patient will want to be sure that you will return, and when!

If the nurse helps Mother to participate in the care of the child while at the hospital, it will be easier for her to take over when they get back home.

Have patience at home . . .

Prepare the others to be especially considerate of the returning offspring. He may display anger with those at home in response to the pain he experienced away from home where he might have been afraid to display his anger.

Psychologists often caution parents not to be surprised at some temporary changes in a child's habits and reactions after a hospital stay. Toddlers who were completely toilet-trained sometimes forget all about the habit. Other strange and new behavior may be in evidence. Return to normalcy will be made easier by the patience and understanding of all the family.

When the child is ready for discharge, the chances are that the distractions of preparations for homecoming may result in the neglect of some important detail.

Any time it comes to mind is a good time to make a list of questions that you will want answered before you take charge of the convalescent. If these are ready the day before, you will be certain that you will get the nurse and doctor to answer them in plenty of time. Some of the things usually concerned are:

What activity will be permitted?

What diet?

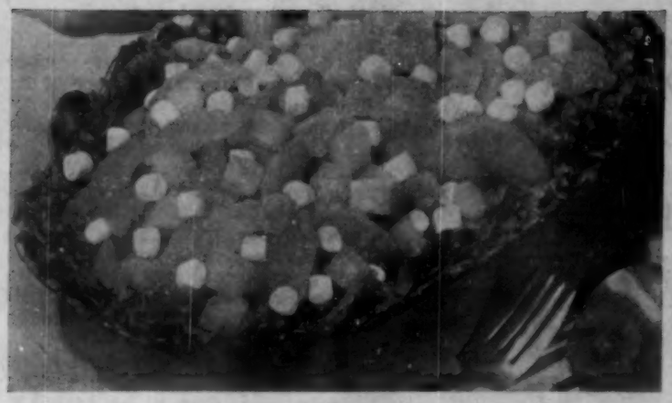
What medication or other care?

When should the child return to the doctor for a check-up?

Wise as preparations may be, emergency hospitalizations do not always permit them. We all hope such eventualities will not arise, but insurance against emotional trouble in such events is a warm family attitude toward the community hospital.

If children hear remarks about the good care so-and-so received at the hospital, the nice nurse that took care of Johnny, or the good job the Ladies' Auxiliary is doing, the attitude that the hospital is a place to be trusted will not need to be built; it will exist, as insurance against the day that some one of your family may go to the hospital.

THE END



Fruit cup combinations

. . . break the monotony of your desserts and supply your diet with wholesome fresh fruit.

by Joanne O. Passmore

HOW much fresh fruit has your family eaten this week? I used to wince everytime I looked at the fruit in a "Basic 7 Foods Group" chart. It seems that cookies, corn curls, pretzels, or crackers were so much easier to grab as snacks. The answers to fruit suggestions for between-meal snacks were "too messy" or "takes too long". Preserved fruits for dessert easily become monotonous, and fruit jello doesn't go over with the masculine members of the family oftener than once a week.

Then I tried fruit cups and have been using them regularly ever since. They are a little more work perhaps, but the easiest way I've found of insuring fresh fruits a place in our diet.

Experimenting with different fruit combinations proved that some fruits definitely taste better together. After following cookbook suggestions, friends' tried-and-true combinations, and my own ideas, I feel safe in recommending the following as particularly good.

A summertime combination is cantaloupe, seedless green grapes, and blueberries. Dice the cantaloupe or use a melon ball scoop. Halve the grapes. Add a bit of lemon or lime juice, and sugar to taste. Sherbets are especially good with it. Since the grapes and blueberries might be expensive in your area, this is a "once-in-awhile" treat.

Another special summer combination is bing cherries (pitted and halved), green grapes, and pineapple chunks.

A winter stand-by is red Tokay grapes, bananas, and apples. The grapes and apples can be mixed ahead of time for flavor, but never add the bananas until 15 minutes or less before serving. They become soggy and turn brown readily. Again, sugar to taste. Honey makes a good change as a sweetener; add orange juice for thinner.

For variety, substitute frozen strawberries for the grapes. The flavor blends equally well with the apples and bananas.

Two masculine favorites . . .

A hit with the men is a help-yourself bowl of orange sections, pineapple chunks, and bananas. Use a glass bowl, and make enough for two servings per person. If it is a company occasion, use scoops of orange or pineapple sherbets as floats. Again, mix the orange and pineapple ahead of time for best flavor, but do not add the bananas until just before serving.

For picnics, pack the orange-pineapple combination in a glass jar. Add a few ice cubes to chill. Slice the bananas into it at the picnic spot.

Another one that men seem to prefer is a combination of grapefruit sections, pear slices, and apple slices (leave red peeling on for color). Top them with cream cheese softened with fruit juices or any red jam or jelly. You can serve this in "fruit cups" or arrange pinwheel fashion on lettuce, as a salad.

Peaches don't combine well . . .

Peaches are the only fruit for which I have not found "good companions". Halved green grapes and oranges are good with them, but even so, that delicate peach flavor is often lost.

Pears are another fruit that cannot be combined without experimentation. We like them with melon balls. The texture is similar to the melons, and seems to cut the bland flavor which sometimes results from the melon combinations. Pears or melons cannot be mixed in advance for best results. They aren't as sensitive as bananas but can turn soggy quickly.

Fruit cup rules . . .

If you serve fruit cups regularly, don't stick to the same one. Vary it and experiment. But for best success, follow the rules and suggestions given me by a foods specialist friend:

- Don't use more than three fruits together. More makes a hodge-podge which drowns out individual fruit flavors.
- Always try to have one fruit with color, to add eye appeal. Add maraschino cherries (bits, halves, or whole) to colorless combinations.
- Use small amounts of lemon juice to accent flavors, but be careful.
- Use honey as a variety sweetener.
- Cut the fruit bite-size (not smaller than one-half inch). They don't retain individual texture and taste if too small. Men, especially, prefer larger pieces.

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YOUNG DAIRYMEN

BASIC FARM PRACTICES

Don't forget the cows on pasture

SUPPLEMENTAL feeding for cows on pasture is part of a good feeding program. Before we can decide when and what to feed in addition to pasture, we must decide approximately how much feed the pasture supplies.

Simply turning a cow out to pasture does not change her feed requirements. She needs the same amount of energy and protein regardless of what feed she eats. We must be prepared to supplement pasture when it will not furnish enough nutrients, either in quantity or quality.

Necessity for supplementation is least with high-quality, well-managed pastures. Overripe, scanty pasture offers little more than exercise and contributes little to feeding.

Cows on pasture that drop in production and lose condition are being neglected and should get supplemental feed. The best practical guide we have in deciding how much feed the cows are getting from pasture is to carefully watch milk production.

A heavy-producing cow will need some grain to supplement even the best pasture. Cows have efficient mowing machines, but there may not be enough time in a normal grazing day for her to harvest enough dry matter to meet her needs.

A 1,500-pound Holstein would need to eat at least 300 pounds of lush fast-growing forage each day to reach her dry matter capacity of about 45 pounds. This is a "big order" under the very best conditions of pasture quality and management and seldom could be achieved.

Mature pasture could contain enough dry matter that 200 pounds of pasture would supply the 45 pounds of dry matter, which is within the average cow's grazing ability. However the quality of mature forage is lower, and then this amount of dry matter will not furnish the nutrients needed. Scanty pasture also places a time limitation on her ability to eat enough. Hot summer weather and flies further limit her grazing time.

Thus we see that both the amount and quality of pasture determine how much extra feed the cow needs. We can give no absolute rule for supplementing pasture. Both roughage and grain feeding may be necessary.

COWS NEED SUPPLEMENT to keep up milk production when quality of pasture goes down.

Pastures with an abundant growth of grass and legume mixtures, before the grasses head out and the legumes reach full bloom, are excellent quality. These could be supplemented with a grain mixture containing 10 to 11 per cent protein such as a mixture of home-grown grains.

When the grasses and legumes become more mature, the protein content of the grain should be raised to about 15 per cent, and even to 17 or 18 per cent when the pasture becomes overripe. Grain feeding must also be increased as pasture quality declines.

With excellent pasture and good grazing conditions, 1 pound of grain for every 6 pounds of milk for Holsteins and 1 pound of grain for every 4 pounds of milk for Guernseys or Jerseys would be enough. Low producers and dry cows may not need grain.

On the other hand with less palatable mature pasture, this rate should be increased to 1 pound of grain for every 4 pounds of milk for Holsteins and at least 1 pound of grain for every 3 pounds of milk for the higher-testing breeds.

—R. P. Niedermeier
—J. W. Crowley

Self-feed pigs on pasture

SELF-FEEDERS have proved efficient and economical on thousands of farms where pigs are raised today. Perhaps the best reason for the popularity of self feeders, aside from their saving of labor or backaches, is that pigs are especially adapted to self-feeding.

With your modern machinery, you can haul the feed out to the pasture, and elevate it into self-feeders. The only chore necessary then is to check the feeder daily. In addition to being sure that the pigs are getting feed, this gives you an opportunity to check the health of your hogs regularly.

The feeder certainly should be placed out in the pasture where the pigs will have access to it at all times. It should not be placed near the hog house where they can feed without using the pasture.

As a rule, pigs do not over-eat when they first use a self-feeder, and for this reason they are seldom troubled with digestive disorders. Pigs have been called the most "foodwise" animals on the farm. The way they use a self-feeder is a convincing argument for such a statement. When the self-feeder allows a choice of feed that you supply in the way of carbohydrates, proteins, and minerals, the pigs will soon learn to select the different kinds in the right amounts to balance their ration. In other words, this system places the responsibility upon the pig to correctly balance his ration. The pig has usually proven himself able to satisfy his own needs. The smaller pigs in the group usually have a better chance to eat.

The percentage of self-feeder space that you give to protein supplement when self-feeding on pasture is as follows:

Weaning to 75 pounds	20 to 25 per cent
75 to 125 pounds	15 to 20 per cent
125 to market weight	10 to 15 per cent

Self-feed on pastures gives hogs that are uneven in size and age a chance to balance their own ration. It allows you to use liquid milk products, and provides an opportunity to feed both grain and protein in the same feeder if they are equal in palatability.

Your self-feeder should be placed upon a platform and, if at all possible, be located near the water supply and shade. You can expect self-feeding on pasture to help push pigs to an earlier and usually a better market.

—F. J. Giesler

Kill European barberry

THE fungus organism that causes stem rust spends one stage of its life on the barberry. If the barberry could be wiped out completely, stem rust could be brought under better control. One reason that this is so is because the common barberry is responsible for the **early** local infection and spread of stem rust. New races of stem rust develop or "hybridize" on the barberry. This is a serious problem because an oat, barley, or wheat variety resistant to stem rust when released to growers may not be resistant to a new race of rust coming from a barberry bush.

This plant is a bush normally about 6 feet tall, but they may range from small seedling plants to bushes more than 10 feet high.

(1) Leaves are either green or purple, and they have saw-toothed edges. (2) Red berries are borne on the bushes in bunches, like currants. (3) Spines are found on the branches, usually three at a place. (4) The outer bark is gray in color, while the inner bark and roots are bright yellow.

Do not confuse the rust-spreading common barberry with the Japanese barberry. This ornamental bush has small, smooth-edged leaves; thorns are mostly single; and the berries hang singly or in pairs. Also, the outer bark is brown. This Japanese barberry does not spread stem rust.

Common salt, applied around the base of the plants, will kill barberry bushes. A material like Ammate, applied to the stubs after the canes have been cut off at ground level, will also do the trick. A cooperative program has been going on for some time in 18 northern grain-growing states to wipe out the rust-spreading barberry. If you find bushes on your farm or in your neighborhood, contact your county agent, agricultural teacher, or state college of agriculture. They will see to it that the bushes are destroyed or give you further information on their eradication.

—Earl K. Wade

Save the leaves

REGARDLESS of the method used in making hay, it should always be remembered that 65 to 75 per cent of the protein and total digestible nutrients of the average hay crop is in the leaves of the crop. For this reason every means possible should be used to save the leaves.

Leaves can be lost even before the crop is cut if we permit the crop to grow so rank that it lodges. Leaves are lost even when good weather prevails for the field-curing of hay, and considerably greater quantities are lost when poor weather prevails and extra handling of the hay is necessary to cure it.

Losses of 30 to 50 per cent of the leaves are not at all uncommon. Such losses represent an enormous loss of protein and it has been estimated it would take $100 million to buy as much protein as is lost in the field-curing of the Wisconsin hay crop in one year.

—F. V. Burcalow

BARNEY FARMLAN

"All I need to make my birthday happy is a good rain."

Keep insects out of stored grain

Few farmers are aware that the loss to insects in stored grain ranges from 2 to 75 per cent.

by Harold Gunderson

MANY farmers have found holes in seed grains and weevils, moth larvae, or moths present in the grain. If they suspect that serious damage has been done to germination, they just buy more seed. Their source of supply is usually as near as their telephone.

But just because we no longer face starvation from damage done by stored grain pests, we shouldn't get too smug. We in the United States are most fortunate. We have vast surpluses of corn, wheat, and rice—about which we complain. Much of the world has too little to eat.

I don't know, or pretend to know, the solution to this problem of distribution, but I do feel our failure to prevent loss of food and feed grains to insects is shameful.

Just consider this for a moment. We plow and plant; we cultivate and worry about the weather. The soil does the rest.

Then we harvest this crop that our money and sweat and skill have made possible. And we store it so carelessly that insects destroy from 2 to 75 per cent of it!

The amount of grain which can be eaten by an insect population depends on the length of time they can feed. In the northern states winter is long and temperatures are severe. So insects are active for only two or four months each year. Under these conditions, farm losses are light.

In Iowa, Missouri, Kansas, Colorado, Nebraska, Illinois, and Indiana the insects in stored grain can feed for eight months each year and average losses approach 10 per cent.

In the Southern states, grain may be infested in the field before harvest. Insects can work the year around and losses range from 50 to 75 per cent.

Now let's run through the National Grain Sanitation Program briefly. The U. S. Food and Drug Administration, a vital but understaffed and overworked organization, is trying to reduce or prevent completely contamination of food grains by insects and rodents.

But this contamination can't be stopped until the farmer goes to work.

Most of the insects, rodent, and bird contamination in food grains occurs while the grain is stored on the farm. And yet it is so easy to prevent.

Here are the steps in your farm sanitation program:

1. Harvest only clean, dry grain. Use 2,4-D before harvest to kill weeds whose green flower buds, leaves, and stems increase the moisture content of grain. If you must harvest grain of more than 13 per cent moisture, dry it artificially before storing it.

2. Store clean, dry small grain in separate structures that are rodent-and-bird proof, cleaned out, and sprayed with a residual spray such as methoxychlor or DDT. Put ear corn into clean, sprayed, rat-and-bird-proof cribs. Shell corn clean and put into treated bins.

BLACK BEETLES found in stored grains can chew through bags and can even eat into wood of bins.

There are advantages to using structures for shelled corn and small grain that are separate from other farm buildings. On the average farm, the grain in separate bins cools down quickly in the winter. Stored grain insects die when grain temperatures stay below 50 degrees for several months.

The bins should be cleaned out before harvest, swept down, and all debris removed. Residual DDT or methoxychlor sprays are applied to kill insects hiding in cracks and to act as a barrier against insects attempting to enter.

At this time, all openings can be screened so birds cannot enter. The bin can also be rat-proofed at the same time.

3. Conduct a vigorous year 'round rat and mouse control program on your farm. Use warfarin-dry cereal baits in permanent bait stations. Clean up rat and mouse harbors near your buildings.

4. In wheat-growing areas, treat wheat that will be stored for several months with wheat protectant dust at the rate recommended by your state college. In the past few years, research has developed a group of grain protectant dusts. One of the widely used formulations contains synergized pyrethrins impregnated on wheat dust.

5. **Watch your stored grain.** Check its condition at least once a month. If heating or crusting occur, check for insects. If you find them, fumigate at once. There are many good grain fumigants available. Again, follow the recommendations or your state college.

The North Central States are the bread basket of the country. If each grain producer will carry out these simple steps, we can stop insect losses in both food and feed grains. We can be sure that grain is good food because we have kept it clean.

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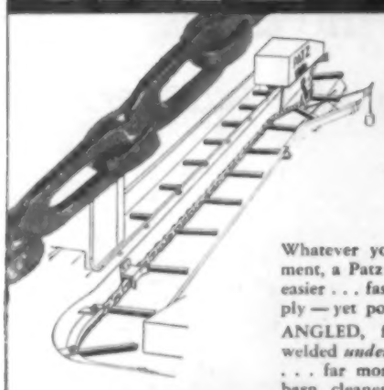

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ARTIFICIAL BREEDING

Iowa A.B. daughters show increase

Reports from the Iowa dairy extension staff indicate that A.B. progeny are outproducing their dams by a substantial margin. To date the summarized data on all A.B. daughters reported to the close of 1955 is as follows:

In 1955 the Iowa Artificial breeding program gained 9,534 cows. Over 53,568 herd owners used the service and 312,702 cows were inseminated to account for 35.5 per cent of the 1,110,000 cows above 2 years of age kept for milking purposes on Iowa farms. In 1950, only 15.5 per cent of the milk cows were serviced by artificial insemination; thus a gain from one-sixth to over one-third of the cows is indicated.

No. A.B. daughters	Total records	Days in milk	Milk lbs.	% fat	Pounds fat
3,598	6,279	291	10,583	3.90	412.8
2,417 daughters compared	4,287	292	10,988	3.80	417.8
2,417 dams compared	7,359	286	10,423	3.70	386.1
Difference		+6	+565	+.10	+31.7

More than 1,700 herds are on D.H.I.A. test in Iowa and over 50 per cent use artificial insemination. About 38 per cent use the program exclusively and 23 per cent in combination with their own sires.

Iowa D.H.I.A. supervisors have reported records on 3,598 A.B. progeny which average 10,583 pounds of milk and 412.8 pounds of butterfat. Daughter-dam comparisons on 2,417 pairs are available and as the table above shows the daughters outproduced their dams by 565 pounds of milk and 31.7 pounds of butterfat. Even with the daughters credited with an average lactation of 6 days longer than their dams these figures are significant as practically all dam-daughter comparisons represent animals tested in the same herd and under similar environmental conditions.

There are three bull studs located in Iowa. The total sires owned is 128 with 106 registered dairy and 22 registered beef bulls. Registered cows account for only 6.3 per cent of the services and is below the national average of 11 to 12 per cent. Service is available in every county with 246 technicians on the job. The average number of cows inseminated per technician this past year was 1,479. The average number of cows serviced per sire in the bull studs was 2,091, an increase of 41 cows per sire compared to 1954.

The Iowa program represents an approach in the right direction for cattle improvement — good sires, enough D.H.I.A. records to at least tell where the program is heading, good feeding, and cooperative businesslike dairymen.

A.B. daughters top sale

That improved breeding is appreciated by the dairyman who seeks replacement cattle is well demonstrated by the recent dispersal of the Holstein herd owned by Robert F. Pease, Owego, N. Y. Mr. Pease started using the artificial insemination service of New York Artificial Breeders' Cooperative in 1949 and technician Nye Freeman says the herd was largely A.B. animals.

Fourteen A.B. daughters averaged $322.50 as compared to $231 for 9 non-A.B. daughters. The top-selling female was a 5-year-old daughter of Dunloggin Master Spice, a proved bull formerly in New York A.B.C.'s stud. He has 156 A.B. daughters with 248 records in D.H.I.A. that average 12,570 pounds of milk, 451 pounds of butterfat, 305 days—2x—ME. One of his sons is retained for proving on the "young analyzed sire" program at N.Y.A.B.C.

Uses electronic recorder

The use of an electronic recorder, or "secretary", installed on his phone has proved to be a great convenience for Dick Smith, technician for New York Artificial Breeders' Cooperative. The device is particularly handy when both Dick and his wife are away from home. Farmers like the idea because they can make their calls when occasion demands and know Smith will receive them.

A deadline for calls is observed as usual but the dairyman calling in doesn't have to wait or call several times if Dick is out. The electronic "secretary" has now been developed to the point that a technician doesn't need to go home to get calls. He just calls his home number and all calls that have been received may automatically be played back to him. This is an important time-saving device and also frees Mrs. Smith of the routine of staying near the phone.

United Kingdom cuts milk subsidy

On July 1, 1956, the consumer milk subsidy was cut from the equivalent of $104 million to $56 million. The reduction adds about 1 cent a quart to the consumer price of milk. However, it does not affect the school milk or welfare schemes.

A few weeks ago, the British government also announced it was going to stop paying farmers a milk bonus, withdrawing the bonus on a gradual basis.

Bulk tanks at state fair

Highlighting the 1956 Wisconsin State Fair's Dairy Equipment Show will be a mammoth display of bulk milk equipment. The exhibition will be housed under one roof with most of the nation's leading manufacturers of bulk milk handling equipment displaying their products. More than 50 per cent of the display space has already been sold and State Fair officials look for a sellout for this, the greatest bulk milk handling display ever held.

Dates for the 1956 Wisconsin State Fair are August 18-26.

Holstein Convention quiet

Record crowd in Milwaukee hears reports on peak year. Cow recognition program is requested. Craig re-elected president. 1957 convention to Indiana.

NEARLY 4,000 people gathered in the Milwaukee area, June 5 to 8, to attend or participate in the events surrounding the 71st annual convention of the Holstein-Friesian Association of America.

Again, as last year, the official delegates received optimistic reports on the progress and growth of the Holstein breed. Registrations, transfers, testing, and classification all show healthy increases. Financially, the association took in $1,089,978 while spending $1,003,997 for a net income of $85,981. Surplus has increased to $1,467,708.

In convention action, delegates asked the board of directors to study and develop a recognition program for outstanding cows similar to that which was designed, and has been used for several years, on outstanding sires.

A move to change the date of the annual meeting from the first week in June to early May was defeated.

Another resolution which stimulated considerable debate would have instructed the executive secretary, Robert H. Rumler, to maintain and keep a file of information on animals which might be considered carriers of undesirable recessive inherited factors.

While the consensus of the convention delegates appeared to be in favor of the intent of the resolution, they did not believe the resolution was specific enough on which characteristics would be considered recessive and undesirable. The resolution was tabled for one year for further study and publication of these undesirable recessive characteristics.

In his presidential address, Albert B. Craig stated that 1955 was "the best year our association has ever experienced." He indicated, however, that two items disturbed him somewhat. There had been a slight drop-off in the number of new buyers and in members.

Referring to the test of the breed, Craig stated that those herds testing under 3.6 per cent should endeavor to bring their butterfat average up. On the other hand, he said, "There are herds testing higher than this and, to me, their problem is to see that with a higher test they do not sacrifice milk production."

On the financial side, Craig stated that the association should be spending each year a considerable sum of money in research. Further, he believed that the financial position of the association should be strengthened in preparation for any possible lean years.

	1954	1955	(+ or —)
Female registrations	172,424	174,139	+
Male registrations	23,539	23,469	—
Total registrations	195,963	197,608	+
Registrations from artificial breeding	77,421	80,579	+
Per cent of total from artificial breeding	39.51	40.78	+
Female transfers	92,669	100,763	+
Male transfers	19,313	18,437	—
Total transfers	111,982	119,200	+
New members	1,550	1,423	—
Total membership	45,446	46,247	+
Herds on herd test	2,037	2,041	+
Cows on herd test	53,580	55,662	+
Pounds milk per cow	11,601	11,685	+
Per cent fat	3.67	3.67	
Pounds fat	425.5	428.6	+
Herds over 400 pounds fat	1,329	1,355	+
Herds classified	1,104	1,233	+
Cows classified	23,024	26,107	+
Animals exported	968	973	+
Animals imported (Canada)	14,156	16,334	+
Income	$1,037,901.96	$1,089,978.74	+
Expenses	979,022.26	1,003,997.30	+
Net income	$ 58,879.70	$ 85,981.44	+
Assets	$1,529,207.89	$1,619,350.22	+
Liabilities	148,913.13	151,641.73	+
Surplus	$1,380,294.76	$1,467,708.49	+

Watch export market . . .

The potential of the export market was emphasized by past president Homer Remsberg. Having spent considerable time during the past eight years visiting and judging shows in South America, Remsberg related his observations and experiences. He deplored the overemphasis on type in South America and the predominance of showing "for sport" rather than for breed improvement and promotion.

The past president stated that the first responsibility in export trade is to the membership of the association. He emphasized, "Our export business must be sound, respected, honest, and profitable." It was his recommendation that the following policies be followed in export trade:

1. Do not export cattle from cows officially classified Fair.
2. Export only cattle which classify Good Plus or better.
3. Actual production or pedigree production should be at least 10,000 pounds of milk.
4. Sell to meet the specific type and production needs of the buyer.

George S. Bulkley was another feature speaker at the convention. He is general director of dairy extension for the Carnation Company. In his address he emphasized that breeders should not forego strength and substance as they pursued good dairy type.

Highlight of the preconvention activity was the Wisconsin Black and White Show held at Pabst Farms, Oconomowoc. It was at this event where close to 4,000 people saw the finest in Wisconsin Holsteins paraded for the approval of the judge and the ringside. Many visitors expressed the opinion that, in their memory, it was the largest ringside to watch a show of this nature. Mr. and Mrs. Fred Pabst were hosts to convention visitors following the show.

President Albert Craig and vice-president Scott Meyer were re-elected to their respective posts by the delegates. Elected directors were Mark L. Borror, California; John P. Case, Illinois; Madison J. Humphrey, Ohio; David J. Roberts, New York; and T. A. Burgeson, Sr., Missouri. Mr. Burgeson is the only new member of the board being elected to succeed T. Hobart McVay of Kansas, who was ineligible for re-election after serving two consecutive terms.

The 1957 convention will be held in early June in Indianapolis, Ind.

HOLSTEIN MILK PITCHER has been approved by Holstein-Friesian Association. Shown here are the five sizes which are to be made available by the association for gifts and trophies as well as utilitarian use. Pictured above standing from left to right are John Cooper, director of extension, and members of the extension committee of the board of directors. Standing from left to right are Cooper, Grant S. Richards, Utah; and A. H. Jergens, Minnesota. Seated are John Stoffell, Tennessee; O. F. Foster, Michigan; and the chairman, Richard Wills, Maryland.

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Here's faster, safer milking—and easier on your cows! That's because only Conde "400" Milkers have the . . .
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ARRIVING weekly from northern Wisconsin, choice Holstein springing heifers and cows. Satisfaction guaranteed. WILLIAM CLOW, Plainfield, Illinois. Telephone 7-3232 or 7-3236. 12-8

ATTENTION dairymen and cattle dealers. We can furnish you Holstein heifers to freshen this fall. Cows of all breeds. Let us know your needs. We can supply them. BOTTEMA FARMS, Bridgeport, Ind. Plainfield 8266. 50-*

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REGISTERED Holstein calves. D. L. CAVEY, Elkhorn, Wisconsin. 11-*

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CHOICE Holstein and Guernsey dairy cows and heifers. Delivered on approval. Some vaccinated. JAMES E. WELCH, R#1, Mukwonago, Wisconsin. 2-*

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REGISTERED Holsteins, Guernseys, and Brown Swiss. All ages. J. M. McFARLAND, Watertown, Wisconsin.

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FARMS FOR SALE

VIRGINIA livestock, dairy farms and country estates. P. M. BROWNING, Realtor. John H. Hitt, Associate, Culpeper, Virginia. 12-*

220 ACRE farm, central Wisconsin, over 70 head cattle, all modern machinery, 3 tractors. Income $1800.00 per month. Price $46,200—terms. Many other farms from $3,000 up. Send for free list. VERN STEVENS, Marshfield, Wisconsin. Rep. Johnson Realty, Phone Spencer 2236. 12-4

BLACKBELT dairy and cattle farms. No snows. 10 clovers and grasses. $5.00 for milk. ERNEST F. RANDALL, Realtor, P. O. Box 368, Selma, Alabama. 1-*

SOUTHERN Wisconsin dairy farms, all located near Fort Atkinson, the world's dairy capital. Our lists are always complete. Write for free catalogue. LOGANWAY, INC., Wisconsin's leading farm brokers, Fort Atkinson, Wisconsin. 6-*

FOR Sale—160 acre dairy farm near Oshkosh, Wisconsin. Fully stocked. Good buildings, modern equipment. Inquire BOX 693, care Hoard's Dairyman, Fort Atkinson, Wis. 9-*

FARMS WANTED

FARMS Wanted—During the past 18 months we have sold several large farms from 300 to 900 acres, but we now need other large farm units in extreme Northern Illinois and Southern Wisconsin. If you have a large farm and wish to sell, please get in touch with us. H. E. GILBERT, REALTOR, Elkhorn, Wisconsin, Phone PArkview 3-3272 (Nationally Known Farm Broker and Accredited by National Institute of Farm Brokers) (Licensed in both Wisconsin and Illinois.) 12-3

WANTED—Rent or buy irrigated farm. Grade A dairy preferred. State terms. Write BOX 211, Odell, Nebraska.

POSITIONS WANTED

WANTED—3X test milking job. 20 years experience. Age 44. Hand or machine. Married with 2 children. BOX 721, care Hoard's Dairyman, Fort Atkinson, Wis. 12-2

COLLEGE graduate desires opportunity to serve a progressive dairy farm as herdsman, manager, or share basis. Experienced in farm management, production testing, judging, artificial insemination, processing and distribution of fluid milk. Dairyman, 6137 Overhill Dr., Louisville 13, Kentucky.

AGENTS WANTED

NEW Bathroom Deodorizer. Hangs on wall. Banishes odors bathroom, kitchen. Lightning seller. Samples sent on trial. KRISTEE CO., Dept. 100, Akron 8, Ohio.

SALESMAN WANTED

WELL established farm dairy supply firm has excellent South and Southwest territories, now available for bulk tank farm dairy equipment and supply salesman. Car expenses, salary, and retirement plan furnished. BOX 723, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

HELP WANTED

FARMER, married, experienced for Guernsey herd. Modern living quarters and good wages. ANCHOR POINT FARMS, Nashotah, Wisconsin. Inquire Gordon Wege, Phone Hartland 4149. 12-2

WANTED—Couple, Dairy, Registered Holsteins. Separate house, extras. West. BOX 717, care Hoard's Dairyman, Fort Atkinson, Wis. 13-2

HERDSMAN—We are in need of a herdsman for a 75 cow herd which is located in central Ohio. We are paying $300 a month plus bonus on the production of milk of the entire herd and the usual incidentals. The home furnished is new and completely modern. Please give age, education and experience. BOX 738, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

EXPERIENCED D.H.I.A. Supervisor. Prefer married man. This cow testing unit established for over 25 years. Salary good. BOX 727, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

TEST Cow Milker—Single preferred, but can accommodate married man with small family. Experienced with registered Guernseys and test cow milking. Modern house. Northern Illinois area. Permanent job with top salary to right man. BOX 725, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 13-2

WORKING herdsman and assistant dairy farm manager take complete charge large operation including farming. Must be capable managing men and bottling plant operation. Good salary, fine future, liberal bonus, modern house furnished. Must have excellent record, high-est character references. CHARLES BUFFINGTON, Lynwood Farms Dairy, Tebbetts, Mo.

EXPERIENCED dairyman to operate forty to fifty cow herd on lease, share, or partnership basis. Now have forty selected Jersey and Holstein cows. Farm located in Southern Tennessee has modern equipment, silos, hay dryer, good pastures, and plenty of water. Give experience and references in first reply. BOX 726, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

WANTED—Experienced married man, with no bad habits, with or without help for eastern Wisconsin large dairy farm. Must be good milker, machine and hand. Modern dairy barns completely mechanized. Mostly barn work around registered cattle. Modern house on farm at city limits. Highest wages and year around position offered. References required. BOX 716, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 12-2

WANTED—Single man experienced machine and hand milking. Modern Jersey farm located in East. Top wages. BOX 697, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 9-*

EXPERIENCED dairyman to operate two hundred and fifty cow dairy. References required. COLEMAN-STEWART FARMS, Riverside, Alabama—W. A. Coleman. 12-6

COUPLE Wanted—Permanent year 'round position. Man for general farm and garden work. Woman to cook and provide room care for 2 or 3 single men, living in separate quarters. Modern house available for couple. Farm estate near Mundelein, Illinois. Give full details, BOX 724, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 13-2

HELP WANTED

MARRIED or single. Dairy farming quality registered Holsteins. Permanent. State experience. ROOM 319, 1150 N. State St., Chicago. 11-spl

WANTED—DHIA Fieldman. High school graduate, agricultural training preferred. Inquire ST. CROIX-PIERCE DHIA, River Falls, Wis.

AUCTIONEER SCHOOLS

LEARN auctioneering, terms, soon. Free catalog. REISCH AUCTION SCHOOL, Mason City, Iowa. 23-*

LEARN auctioneering. Term soon. Write for catalog. MISSOURI AUCTION SCHOOL, Box 8425D4, Kansas City, Missouri. 9-*

SWINE

FOR Sale—30 to 45 lb. pigs $10.00. 45 to 60 lb. pigs $11.50. All good pigs. CLARENCE ACKER, Middleton, Wis. Phone 2569-6. 12-*

POULTRY—BABY CHICKS—DUCKS

26 BREEDS, 90c Chick Sale. Thousands weekly. Catalog. THOMPSON CHICKS, Springfield, Missouri. 13-6

RABBITS

RAISE Angora, New Zealand rabbits on $500 month plan. Plenty markets. Free details. WHITE'S RABBITRY, Jackson, Mich. 9-*

DOGS

GENUINE English Shepherd and Collie Pups. Healthy and strong. Guaranteed heelers. Your's trial. Choice of sex. Spayed females a specialty. Priced right. CLOVERDALE KENNEL FARM, Ackley, Iowa. 18-*

WORKING Border Collies. Imported parents. Puppies guaranteed. HOWARD McCLAIN, R6, Lima, Ohio. 2-*

SHEPHERDS, Collies, outstanding heelers, watch dogs. ZIMMERMAN FARMS, Flanagan, Ill. 5-*

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RAISE Nutria for profit. North America's newest and fastest growing fur-bearing animal industry. Free literature. Write HENRY M. TURNER, R. R. # 1, Xenia, Ohio.

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FANFOLD Fotos—Now by mail. Roll developed 8 brilliant enlargements in album form, all for 25c coin. MAIL-PIX, Dept. H, Box 7100, Elkins Park, Pennsylvania. 9-*

ROLL developed, 8 beautiful enlarged prints 25c; 12—35c. (Trial) 10 reprints 40c. Quick service. WILLARD'S, Box 2553T, Cleveland Ohio. 10-*

ROLL developed, 12 Supertone jumbos and professional enlargement 35c. ARTSHOPPA, Sweetwater, Texas. 13-2

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BUY Wholesale Save 66 2/3%! Appliances, furniture, jewelry, toys, sporting goods, tools. Free catalogs. NATIONAL BUYERS SERVICE, Box 3338DB, San Francisco. 11-14

NYLON hosiery bargains. Factory rejects (thirds) 6 pair $1.00. Our better grade (seconds) 3 pair $1.00. Our select grade (irregulars) 3 pair $2.00. Postpaid when cash with order. ALLEN HOSIERY COMPANY, Box 349, Dept. 11, Chattanooga, Tenn. 9-spl

FREE—"Sew It Yourself with Cotton Bags." New, free 24-page idea book for making clothing, household articles, toys and gifts from colorful cotton bags. 1956 Simplicity pattern illustrations. Send postcard to COTTON COUNCIL, Box 9905, Memphis 12, Tenn. Offer expires April 1, 1957. 13-spl

CASH crop. Earn easily $50-$250 spare time. No experience needed. Just show exclusive Elmira Christmas cards, gift wrappings. Samples on approval. Bonus: Free box cards, also 50% profit on first order. Hurry! ELMIRA GREETING CO., 179 Clinton, Elmira, N. Y.

MISCELLANEOUS

NEED stationery? You will like our livestock illustrations. We will print your order with your own breed on it. Write for stationery circular. HOARD'S DAIRYMAN, Fort Atkinson, Wisconsin. 20-*

BILLBOOKS—Statements, Envelopes, Rubber stamps. EDDIROSE, Bronx 72, New York. Free catalog.

FIND A BUYER

Many farmers have things to sell, but do not know how to find a buyer. Cheapest way to find the man who wants something you have for sale is to run a small classified ad in Hoard's Dairyman. Cost is only 30c a word, including name and address.

Send in your classified advertisement today.

HOARD'S DAIRYMAN
Fort Atkinson, Wis.

Sales Announcements

July 10, 12:30 p. m. — Holsteins & Guernseys. Central Wisconsin Bred Heifer Sale. Friendship, Wisconsin.

July 11—Holsteins. Mid-Summer Registered and Grade Holstein Sale. Clyman Farms, Watertown, Wisconsin. Francis Darcey & Sons, Watertown, Wisconsin.

July 12, 11:00 a. m.—Fox River Valley Holstein Breeders' Association Summer Consignment Sale. Fond du Lac Judging Pavilion, County Fairgrounds, Fond du Lac, Wisconsin. G. J. Stanchfield, 30 Champion Avenue, Fond du Lac, Wisconsin, Sales Manager.

July 19, 11:00 a. m.—Holsteins. Wisconsin Summer Sale, Sales Pavilion, Waukesha, Wis. 85 Head. W. L. Baird Company, Sale Managers, Box 177, Waukesha, Wisconsin.

July 23—Holsteins. Fairgrounds, Atlanta, Georgia. 50 Registered head. Georgia Holstein Association. M. B. Nichols, Sale Manager, St. Charles, Illinois.

July 28—Holsteins. W. G. Relander Dispersal, New Richmond, Wisconsin. Sales Managers: Robert Koepp, Rice Lake, Wisconsin; Piper Brothers, Watertown, Wisconsin.

OWN A CHESAPEAKE

Wonderful hunting companions both afield and in heavy duck marshes. Efficient, willing, hard working. Fine with children. Write for new booklet and name of nearest breeder.

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89 Ghuia Vista Drive, San Rafael, Calif.

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The answer to making profits in this business of milking cows is great production per cow.

Brigham Farm has been Breeding for Production for over Fifty Years. We have had the "money making" answer for others—Why not let us give YOU the answer to More Money Milking Cows.

Buy Production Breeding in Jerseys

ST. ALBANS VERMONT
Established 1863
ELBERT S. BRIGHAM, Owner

GOLDEN SUNSET JERSEYS—Registered Jerseys since 1899. Too many young bulls and bull calves. From May 15th to September 1st we will offer these at lowest prices in years. Send for free list. Biltmore and Imported breeding. THE ENNIS JERSEY HERDS, Festus, Missouri.

BRYN MAWR FARM . . . Announces new location. Bryn Mawr farm has been sold for subdivision. The new farm is six miles south and east of Farmington, Minnesota.

OUR NEW ADDRESS:
FRANK B. ASTROTH, Rte. 1, Farmington, Minn.

DALVIEW
★ JERSEYS ★

Bull calves selling out of breeding season are a good buy. And if they get heifers that will produce 10,000 lbs. of milk or more, you have an even better buy.

FOR PRODUCTION PROVEN INHERITANCE IN JERSEYS THAT PAY
WRITE
DALVIEW JERSEY FARM
Route 1 Box 46 Cedar Hill, Texas
"Bugs" Zelda, Darrell Lane, and Kyle Tate

Registered Jerseys

Forty years of production testing, last 12 years on H.I.R. Last herd average 438 lbs. fat. 27 milk cows, 15 heifers. Also out-standing yearling bull whose dam has a nine year average of 580 lbs. fat. This year at 11 years old will make 700 lbs. fat in 365 days 2x milking. Will sell entire herd or individual. All calfhood vaccinated.

CHARLES D. HOLLOWAY, Union Grove, Wis.
2 miles south of Union Grove on Highway 45

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Profitable AYRSHIRES
The Breed with Production and Type
LARGEST PRODUCERS OF A1 MILK
at lowest feed cost
The Dairyman's choice for greatest net returns from his cows
Write for literature or list of breeders near you
AYRSHIRE BREEDERS ASS'N. 10 Center St., Brandon, Vt.

AYRSHIRES FOR SALE—Look for our consignments at the following summer Ayrshire Sales: Va. Sale, Verona, Aug. 15; N. C. Sale, Statesville, Aug. 20; S. C. Sale, Laurens, Aug. 20; W. Va. Sale, Jackson's Mill, Sept. 11. There should be a lot of good Ayrshires at these sales. Write for information.
STRATHGLASS FARM, Box 71, Port Chester, N. Y.

THE STARTING POINT FOR DAIRY PROFITS
Choice heifer and bull calves rich in the blood of Carefree Diamond Jim. Double Approved. Also polled bull calves out of daughters and granddaughters of Diamond Jim. All calves from classified and official herd test dams. Write for pedigrees and prices.
CAREFREE FARMS
"Traditionally The Best" NEW HAVEN, IND.

AYRSHIRE SALES
August 13—James I. Hood Dispersal, Rt. 1, Goldsboro, N. C. August 15—Virginia Club Sale, Pavilion, Verona, Va. August 17—North Carolina Club Sale, Statesville, N. C. August 20—South Carolina Club Sale, Fairgrounds, Laurens, S. C. September 11—West Virginia Sale, 4H Grounds, Jackson's Mill, West Va. September 24—Mississippi Club Sale, State College, Miss. October 3—Florida Sale, State Fairgrounds, Tampa, Fla. All sales 1 p. m. except West Virginia at 7:00 p. m. For catalogs write Bill Carpenter, Rutherfordton, North Carolina.

REGISTERED AYRSHIRE BULL CALF, Born 9/12/55. Dam's record 12000± milk, 557± fat as a 2 year old. Imported breeding. Write: GREENFIELD FARM, Box 63, Route 2, Mukwonago, Wisconsin.

LONG LANE AYRSHIRES
We believe Neshaminy Miss Phett is one of the breed's greatest. That is Why We Have Used Two Of Her Sons! We think Penshurst Jim and Storm Cloud of Windrow are the best of Penshurst. That is Why They Are In Our Program! Wouldn't You Like A Bull Calf Carrying These "Toppers" in His Pedigree? Write Now.
LONG LANE FARM, Marine City, Michigan

BROWN SWISS

What Makes a DAIRY BREED

America's leading farm dairymen, livestock breeders, and dairy officials of agricultural colleges are today universally agreed on two facts which have greatly affected the development of the Brown Swiss breed, and always will so affect it. These facts are:

(1) The usefulness of any dairy breed is determined by how well that breed meets the demands of the American system of agriculture.
(2) Any breed of livestock to remain useful must be hardy, rugged, long-lived, and capable of reproducing its kind.

To a remarkable degree the Brown Swiss meet these requirements of a useful breed of cattle.

For more information about the breed write:
BROWN SWISS ASSOCIATION, Beloit, Wis.

Plan for Gala Week-end
AUGUST 10th and 11th

- HyCrest's 11th Annual Brown Swiss Breeders' Get Together, Friday, Aug. 10th.
- National Super Swiss Sale, Saturday, Aug. 11th.
- Annual HyCrest Goodwill Heifer Sale, Saturday, Aug. 11th right after National Super Swiss Sale. Picnic at HyCrest Farm—Sales at Northampton, Mass.

HyCrest farms
R.D. Box 316, Lewiston, Minn.

GUERNSEYS

ESKDALE FARMS Registered
GUERNSEYS
PROMISING BULL CALVES
By proven bulls and out of high producing cow families. Priced reasonable.
Box 488 Tryon, North Carolina

JEFFERSON COUNTY GUERNSEY BREEDERS' ASSOCIATION
Guernseys . . . Registered and Grade Females. All Ages . . . ALSO BULLS. Free Service to Buyers or Bought on Order . . . Fort Atkinson, Wisconsin.

GRANDVU GUERNSEYS
Offering select Guernsey bull calves up to serviceable age. Sired by McDonald Farms Pro Melvin, an outstanding type and production Sire. Dams are daughters of the great proved high production Sire, Flying Horse Masters Royal, large, typy, good uddered cows with records up to over 10,000 lbs. milk, 550 fat as 2-yr.-olds, 305—2x milking. Heifer calves for club work for Sale, the blue ribbon kind. The Right kind at the Right price. Write or come to GRANDVU FARMS, Wrightstown, Wisconsin.

FOR SALE
Bull born February 4, 1956
Dam's three records average 12434—894 in 305C, 2 on 2x milking, 1 on 3x. Sire's dam Excellent has 5 consecutive records 2x—4 in 305C, averaging 10956—580. From great cow families. Also choice unrelated heifers all ages.
TARBELL GUERNSEY FARMS
Smithville Flats, New York

FOREMOST PREDICTION
Voted 3rd most influential sire of the Guernsey breed. Proved one of the greatest production transmitting sires through his sons and grandsons. Our herd is linebred to Foremost Prediction. Breeding animals of both sexes available.
McDONALD FARMS
CORTLAND, NEW YORK

GUERNSEYS
Waukesha County can furnish you with most any kind of Guernseys you desire—grade or pure bred. Lee Burlingham, Boldman, at your service. WAUKESHA COUNTY GUERNSEY BREEDERS' ASS'N, Waukesha, Wisconsin.

NEED A GOOD GUERNSEY SIRE?
If you are looking for a young sire with good type and production back of him, write for our sale list. We have youngsters for sale at reasonable prices, out of very good female families and sired by Leeside Dairyman, McDonald Farms Mister Dairyman, Dairyman Favorite, or Dairyman Dividend. You will save money if you buy a well bred youngster and raise it yourself.
Write Us Today
HOARD'S DAIRYMAN FARM
FORT ATKINSON, WIS.

IDEAL FARMS
PUREBRED
GUERNSEYS
Why not be the proud owner of your own herd sire? We have many out of 700, 800, or 900 lb. dams. Breeding stock you are looking for. State your wants, better yet, come and see for yourself. The World's Greatest Production Herd. Prices reasonable.
IDEAL GUERNSEY FARMS
AUGUSTA NEW JERSEY

HIGH PRODUCTION PLUS THE CONSTITUTION AND CONFORMATION TO MAINTAIN IT
We offer the finest selected bull calves sired by Imp. Petronnerie Dandy, Langwater Royalton and Fairlawn Courteous Prince and out of Strong proven cow families. AR & D.H.I.A. records. Inquiries are invited, so are you.
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Milwaukee Road, Libertyville, Illinois

A BULL OF YOUR OWN
FOR UNIFORMITY IN YOUR HERD. Select a good typy young bull sired by one of our fine quality sires—Langwater Rocket, Ideal Narcissa's Radiant or Fairlawn K. Princeton. They will add quality to your herd and they are priced right. See them at the farm. Highway 2̄96—between Stillwater and White Bear, Minn.
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Choice registered Guernsey bulls by proven sires, such as HORSESHOE CONRAD ASTERBILT and out of at least 550 pound dams, for sale. Large selection to choose from, serviceable age and younger. Calfhood vaccinated. Bang's free, TB accredited herd. Write or visit us for pedigrees and full particulars.
BRANDTJEN FARMS, Farmington, Minn.

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Complete Sales Service . . . Auction and Private Treaty . . . Our listings include Proved Sires, outstanding bulls, cows, heifers. Also a few top show prospects. Fieldmen at your service. Cary, Illinois —Box 404—Phone: MErcury 9-5531.

EUREKA FARMS offer Sept. bull calves. Their dams are the result of Carnation bulls since 1933, except the use of an occasional out cross. These calves are sired by our Carnation Plunderer. He is our 7th Carnation sire. Have 50 of his daughters.
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HOLSTEINS
GUERNSEYS
Buy direct from farms where top production dairy cattle are raised. Over 300 to select from. Located in "Heart of Indiana's Dairyland," Kosciusko County. Experienced truckers available. Also Shetland ponies.
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Silver Lake, Indiana Telephone 3801-3804

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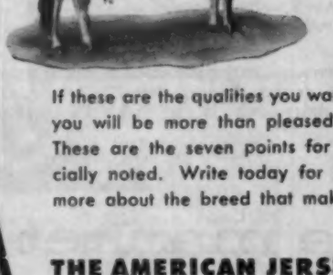
Do you want your cows to have these qualities?



- Early maturity
- Efficient production
- Quality production
- Long life
- Good grazing ability
- Beauty of form
- Climatic adaptability

If these are the qualities you want in a dairy animal, then you will be more than pleased with registered Jerseys. These are the seven points for which Jerseys are especially noted. Write today for free literature and learn more about the breed that makes more profit per acre.

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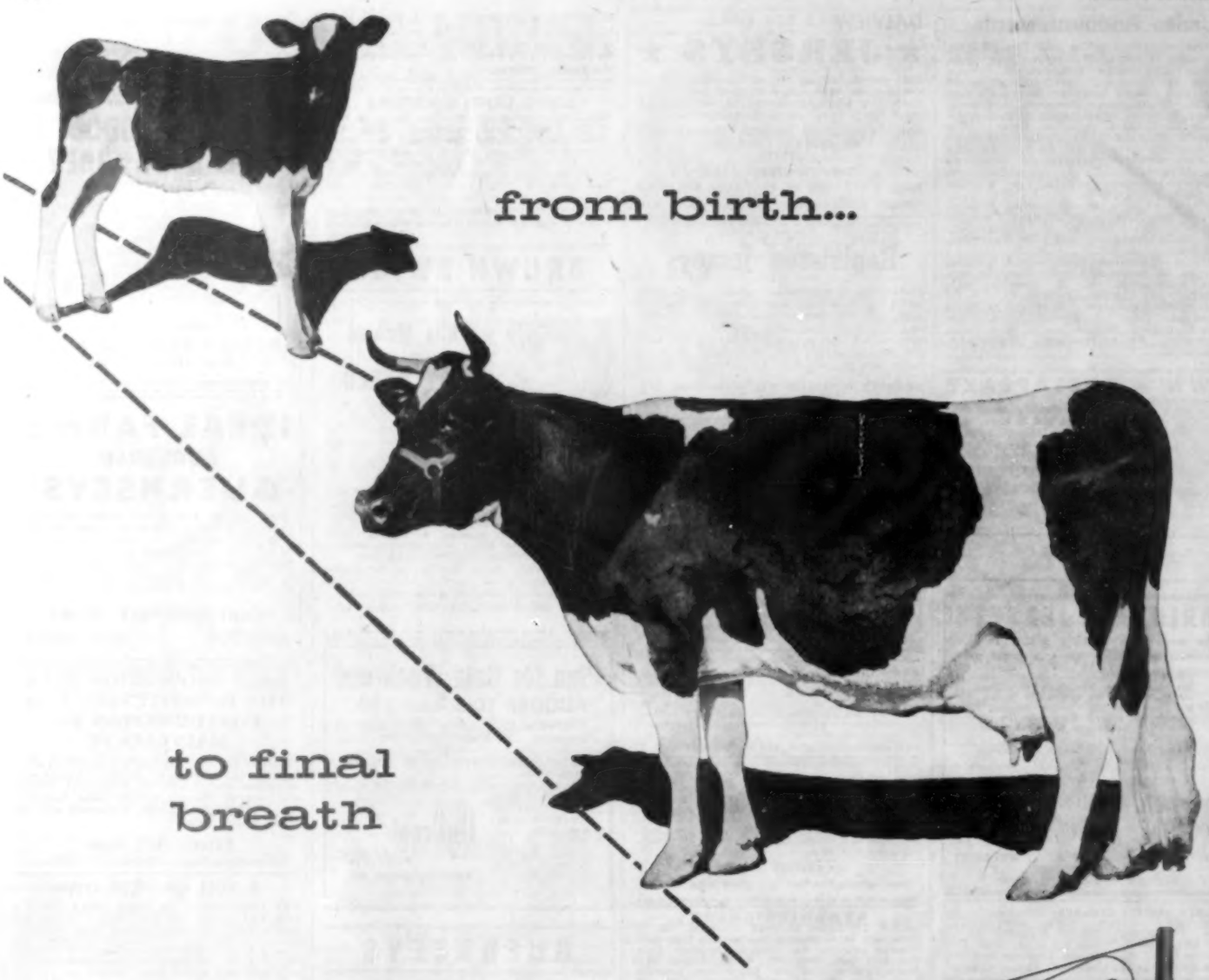
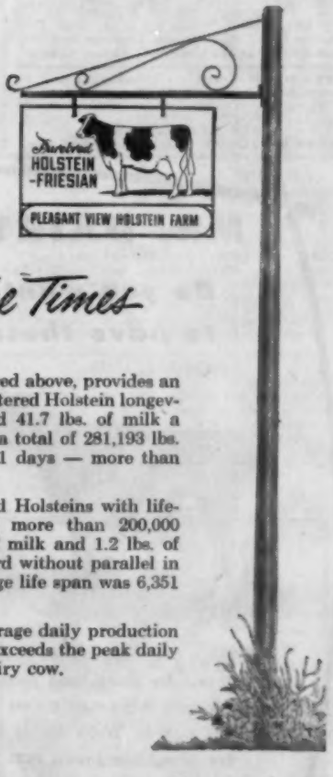


REGISTERED HOLSTEINS



average more milk PER DAY OF LIFE

The realistic yardstick of *milk per day of life* (average daily production from birth to death, with no allowance for growing or dry periods) underscores the extra profit potential of Registered Holstein longevity.

The Registered Holstein cow's unrivaled ability to produce and reproduce at a profitable clip year in and year out — reflected in overwhelming Registered Holstein domination of outstanding lifetime production records — provides a significant key to greater dairy profits under today's conditions.

Registered Holsteins are bred to last longer — to return your investment over and over again. Registered Holstein longevity will make more money for you.

Sign of the Times

Pansco Hazel, the cow pictured above, provides an outstanding example of Registered Holstein longevity. This great cow averaged 41.7 lbs. of milk a day from birth to death . . . a total of 281,193 lbs. of milk in a lifetime of 6,751 days — more than 18 years!

In a recent study, Registered Holsteins with lifetime production records of more than 200,000 pounds averaged 35.7 lbs. of milk and 1.2 lbs. of fat *per day of life* — a record without parallel in the dairy world. Their average life span was 6,351 days — nearly 17 years!

This tremendous level of average daily production from *birth to death* actually exceeds the peak daily production of the average dairy cow.

Registered HOLSTEINS *Breed of the Times*

fit the farm...fit the market

HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA

BRATTLEBORO, VERMONT

PRODUCTION BRED BULL

We offer a very typy young bull born 7/1/55. The dam is classified "Very Good" and is 12 years old and going at better than 500 lbs. with a whole string of records at 500 lbs. level on 2x milking. The sire is our senior herd sire with 20 good milking daughters in our herd. Write or phone for information and prices. Phone Graysville 8R10.

MEDSKER FARMS Sullivan, Indiana

BORN JANUARY 6, 1956

This month we offer a son of Carnation Stylemaster, our senior herd sire. This calf is dammed by a daughter of Carnation Bracelet Homestead. Stoffell Carnation Bessie Faye, who as a 3 year old on 3X milkings, 365 days, made 645.9 lbs. butterfat and 17,477 lbs. milk.

If you will note from this calf's picture he is an excellent type calf. For price and pedigree write:

STOFFELL'S MILK FARM

Route 12 Knoxville, Tennessee

CARNATION PROFESSOR
Excellent and Gold Medal

PROFESSOR IS NOW EXCELLENT AND GOLD MEDAL

WORD has just been received from the Holstein-Friesian Association of America that Carnation Professor is now a Gold Medal Sire. This is the highest award a bull can receive from the Association and is based on the type and production of a bull's daughters. He has also just been classified "Excellent". Professor is the third Carnation herd sire to be awarded a Gold Medal in the past six months.

Professor is a son of the "Excellent", Gold Medal sire Hallrose Progressor. His dam is a "Very Good" daughter of Carnation Chieftain with 116,720 pounds of milk, 4786.9 pounds of fat in her first 6 lactations. She is now making another good record on her seventh lactation. Her dam is a 1066 pound Governor daughter.

Incidentally we have an outstanding Professor son from a 617 pound first calf daughter of the "Very Good" Gold Medal Carnation Imperial Madcap Lad, and from a "Very Good" Chieftain daughter with 72,316 pounds of milk, 2,852 pounds of fat in her first four lactations.

He is Ear Tag B-308. Write for pedigree, pictures and price.

Carnation Milk Farm

Address:
CARNATION MILK FARMS
Dept. 2165
Carnation, Washington

HOLSTEINS -- GUERNSEYS

Good selection young heavy producing close-up or springing cows and choice springing or fall freshening dairy heifers. Direct farm purchases carefully selected for quality, type and production. T.B. & Bang's Tested. Private daily sales and orders conscientiously filled. Reasonable prices and delivery rates gladly quoted. Buy with confidence from Ohio's Oldest Licensed & Bonded Dairy Cattle Distributors. 107 years of continuous operation.

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ATTENTION DAIRYMEN:

We are in position to help purchase your dairy cows direct from farms where they are bred and raised for high production. Bonded and licensed, thirty-five years experience, insured truckers available. Call or write me before purchasing dairy cows.

EARL MOSER PHONE: 08 WREN, OHIO

NEED MILK?

Thirty of the 45 cows we advertised last time have been sold, along with 9 bred heifers that were not advertised. That leaves 15 cows, and these are 15 of the best. Five buyers came. They bought, respectively, 2, 4, 5, 9 and 18 head. No one asked for anything off, because they were priced right—nothing under $300.00—nothing over $400.00.

All are production tested, classified, Calfhood Vaccinated and Negative.

Who wants these other 15? Better phone. Numbers 776 or 544.

SCOTT MEYER & SONS, Hannibal, Missouri

Choice high grade Jersey, Guernsey and Holsteins. Springers and fresh cows. Some milking be fresh later on. Also bred and springer heifers. T.B. Bang's tested. Also 6-7-8 mo.-old heifers. Calfhood vaccinated. Taking orders now for future delivery.
Claude Thornton, R#2, Box 256, Springfield, Mo.

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Ten Gold Medal sires bred in our herds and a study of the progeny of these sires, discloses that a large number of Gold Medal and high production animals are direct descendants of these great sires.

Linebreeding and continuous testing for production, together with a complete health program removes all doubt if you are interested in improving your breeding program.

Choice young bulls from our best blood lines and from selected production dams, are available at all times.

FOR INFORMATION WRITE:
W. W. KINYON, Farm Supervisor
Department of Public Welfare
State Capitol, Madison, Wisconsin

BUILD UP YOUR HERD WITH

Wisconsin Dairy Cattle

Holstein - Guernsey - Brown Swiss

COWS, HEIFERS, ALL AGES
Registered and Non-registered

We have 200 to 300 head on hand at all times. Come here and make your own selection. Or we will fill your order on direction from you and deliver C.O.D. on your approval. All animals T.B. and Bang's free, accompanied by health certificates. Delivered in truckload lots to your farm, in our own trucks, by experienced cattlemen.

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BUY HOLSTEINS STRAIGHT FROM "THE HEART!"

Best selection from one of the world's largest dairy counties. Over 15,000 cattle are on D.H.I.A. test and more than 30,000 bred artificially from some of the top proven bulls. Also a few serviceable bulls from high record dams. Fieldman sales and service. For information write: Frank E. Cairns, Fieldman, 353 W. Johnson St., Madison, Wisconsin.

TEL. ALPINE 6-0513 OR CEDAR 3-5538

DANE COUNTY HOLSTEIN BREEDERS CO-OP ASSOC. MADISON, WIS.

Top Holsteins-Top Service

Select well grown cattle of superior breeding from this outstanding dairy area, where customers return year after year for more. You, too, should buy in Richland Co.

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Let us help you select foundation Holsteins, both purebred and grade, from herds of known productivity in the finest Holstein area in the country. Orders also filled at your direction.

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Phone 264 or 9621J1

Neshonoc Farms DISPERSAL

DR. EDYTH C. SWARTHOUT • WEST SALEM, WISCONSIN

Sale will be held at the West Salem Sale Pavilion
Located 12 miles East of La Crosse, Wisconsin on U. S. 16

JULY 23 and 24 Sale starts at 11 A. M. each day

200 REGISTERED HOLSTEINS

PRODUCTION • TYPE • BREEDING

100—Milk Cows with records up to 17,000 lbs. milk and 670 lbs. Fat on twice a day milking. About half of these cows are due in early Fall.

38—Bred heifers due to freshen in July, August and September. All from dams with over 700 lbs. fat and 17000 lbs. milk.

55—Open heifers and calves. 10 bulls (including) 5 herd sires.

NESHONOC FARMS are the breeders of many famous animals including the ALL-AMERICAN PRODUCE 1952 of NESHONOC JOAN FOBES. They are NESHONOC JOAN CYCLONE "Excellent" All-American 3 year old 1951 with 385 d. 3¼ y. 3x 28390 lbs. milk, 880.3 lbs. fat and the dam of PABST CYCLONE and NESHONOC JOAN COUNT "Excellent" and selling in the sale. Their sire was WIS BURKE COUNT. This herd has used many outstanding herd sires and using at the present time BROAD ROCK MASTER WAYNE "V. G." the Great Proven Sire from DUNLOGGIN GRACIOUS MASTER "Excellent" and NORTH STAR FRANCES WAYNETTE "V.G." with 365 d. 11 y. 3x 22819 lbs. milk 4.4% 998 lbs. fat, and the great sons of WIS CHERRY COUNT, with 365 d. 4 y. 2x 26323 lbs. milk, 897 lbs. fat. They are WIS BURKE COUNT and WIS CRAFTSMAN a son of WIS IDEAL, a Silver Medal Production Sire.

CALFHOOD VACCINATED — BANG'S CERTIFIED — T.B. ACCREDITED
FINANCE AVAILABLE — ⅓ DOWN AND NO SIGNERS NEEDED

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Pabst Regal "Excellent"
Gold Medal Proven Sire
Two All-American "Gets"

Wisconsin Admiral Burke Lad's transmission of high production and good type is inherited by his sons and grandsons. Regal shows an average increase on 112 pairs of 246 lbs. milk and 23 lbs. fat. Pabst Fobes Burke Ex. is a grandson of Regal from a Burke dam. He has 50% Burke blood.

Burke-bred bulls and semen available.
Write for pedigrees and terms.

PABST FARMS, Inc.
Accredited & Negative Oconomowoc, Wis.

Pabst Fobes Burke Ex.
All-American dr. Yig. 1953
All-American 2-yr-old 1954

THE SOUTHERN INVITATIONAL ★

Fairgrounds, Atlanta, Georgia, JULY 23rd

50 August and September freshening heifers, from outstanding herds in the Midwest and the South. Under the auspices of Georgia Holstein Association.

Sale Manager, M. B. Nichols, St. Charles, Ill.

Registered HOLSTEIN SALE

WISCONSIN SUMMER SALE

JULY 19th - SALES PAVILION
WAUKESHA, WISCONSIN SALE STARTS AT 11 A. M.

85 PUREBRED & HIGH GRADE HOLSTEINS

. . . featuring fall freshening cows and heifers—some fresh—for base production. Entries include . . . 2 granddaughters of Carnation Homestead Highboy out of dams with records up to 578 lbs. fat on 2X . . . John Ruff. A 2-yr.-old daughter of Crescent Beauty Commander Boy from a 522-lb. dam and due in August to Wisconsin Leader . . . George Kieffer.

Other consigners—Verpana Farms . . . Ruby Acres, Victor Konop, and many others. Buyers have been well pleased with the quality of cattle in these sales. For information Write

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Serving five counties. Offering select quality heifers and young cows, grade and registered, bred for type and production. Also choice, serviceable, registered bulls. Mostly Burke and Carnation breeding. Free fieldman service.

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Registered and grade Holsteins available from top DHIA accredited herds, many using artificial breeding. Special offering of heifers bred for fall freshening. Free fieldman's services.

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Dairy Cows and Heifers

High Producing—Healthy—Any Breed. Protect Yourself and Your herd by Purchases from First Wisconsin County in Plan-A Bang's Control Program. Write A. J. Klein, Mgr., Box 100, Mason, Wisconsin.

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W. G. RELANDER DISPERSAL

NEW RICHMOND, WIS.
SATURDAY, JULY 28

80 REGISTERED and GRADE HOLSTEINS

40 Milk Cows, most due in Fall.
18 Bred Heifers, due in Aug., Sept. & Oct.
22 Open Heifers and Calves.

PRODUCTION and BREEDING

HERD AVERAGES

10,783 lbs. milk	3.98%	429.5 lbs. Fat
11,091 lbs. milk	4.02%	445.7 lbs. Fat
11,243 lbs. milk	3.98%	441.7 lbs. Fat
11,145 lbs. milk	3.7 %	414.2 lbs. Fat
11,319 lbs. milk	3.7 %	420.3 lbs. Fat

HERD HEALTH

Calfhood Vaccinated Bang's Tested T.B. Tested
Finance available ¼ down and no signers needed

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ROBERT KOEPP, Rice Lake, Wisconsin
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We keep in touch with the best breeders of both pure bred and high grades. At present, there are special offerings in springing, high grade cows and heifers in carload or truckload lots. We service over 700 herds. Our motto is—"Quality at the lowest prices possible."

Services — W. L. Baird — Arthur F. Bennett — Don A. Stouffer, James L. Gordon and Reynold Bennett at your disposition—can handle orders for truck or carloads. Telephone Liberty 7-3644 or Liberty 2-3726, Waukesha, Wisconsin or write for information to

INTER-COUNTY
DAIRY CATTLE ASSOCIATION
Box 177 Waukesha, Wis.

FOX RIVER VALLEY HOLSTEIN BREEDERS' ASSOCIATION

SUMMER

Consignment Sale

TO BE HELD AT
FOND DU LAC JUDGING PAVILION
ON COUNTY FAIR GROUNDS

JULY 12, 1956 Sale starts at 11:00 a. m.

40 bred heifers and 30 young cows—to freshen late summer and early fall—five outstanding service age bulls.

G. J. STANCHFIELD, Sales Manager
30 Champion Avenue Fond du Lac, Wis.

FOR MAXIMUM FEED EFFICIENCY

--USE HARDY'S PLAN OF FREE CHOICE FEEDING OF STEAMED BONEMEAL (OR DI-CALCIUM PHOSPHATE) AND . . .

HARDY THE ORIGINAL
TRACE MINERAL SALT
FORMULA No. 1 — FOR RUMINANTS

HARDY'S COMPLETE MINERAL PLAN IS MORE EFFICIENT 3 WAYS:

1. Each Cow Gets All the Trace Minerals She Needs Daily with Her Salt — Without Being Forced to Consume Excessive Amounts of Calcium
2. Calcium-Phosphorus Intake is Adjusted Free Choice to the Individual Animal's Requirements at the Proper Calcium-Phosphorus Ratio
3. No Other Mineral Mixture Needed

Here's how to use HARDY'S COMPLETE MINERAL FEEDING PLAN! Build or buy a simple divided mineral feeding box. Put HARDY TRACE MINERAL SALT in one side. Steamed Bonemeal or Di-Calcium Phosphate in the other. Let the animals eat these minerals free choice all the year around.

In this easy, economical, labor-saving way you supply your stock daily with all the minerals they need for proper health. The three Major Minerals — Salt, Calcium and Phosphorus. And the five Trace Minerals in HARDY TRACE MINERAL SALT — Iodine, Cobalt, Manganese, Copper and Iron.

Each animal will then eat all the minerals it needs each day — according to its own, individual, instinctive hunger. This not only assures efficient mineral utilization — but also tones up the animal's system enabling the cattle to get greater benefit from the other feed. The animal isn't forced to eat excessive amounts of Calcium — as is found in so many complex mineral supplements — in order to get enough Trace Minerals.

By avoiding excessive calcium consumption — which would upset the Calcium-Phosphorus balance of the ration — HARDY'S PLAN assures efficient feed utilization.

HARDY'S MINERAL PLAN also does away with the need of buying a complete mineral mixture. As these usually are high-priced — this means a big cash saving.

Ask Your Feed Dealer for HARDY, *The Original,* TRACE MINERAL SALT today!

NOW IN TWO DIFFERENT SPECIALIZED FORMULAS

Now HARDY TRACE MINERAL SALT Formula No. 1 (for Ruminants) is available two ways — designed to meet Trace Mineral requirements in any area.

COBALT-IODIZED SALT — for areas where only Cobalt and Iodine are deficient.

COMPLETE TRACE MINERAL SALT. To provide all 5 Trace Minerals — Cobalt, Iodine, Iron, Copper and Manganese — where indicated by soil condition, or type of ration.

ASK YOUR COUNTY AGENT for the recommendation for your Dairy Herd!

HARDY SALT CO.; Drawer 449; St. Louis 3, Mo.

SWINE

by R. H. Grummer

What about test tube pigs?

There is still much to be learned. It presents new problems not encountered with dairy cattle. Cost may be too high for commercial producers.

A FELLOW wrote in some time ago and asked whether artificial insemination of swine would put him out of the "boar business," and if so, how soon. This man pointed out that there isn't much of a market for dairy bulls because of artificial insemination and he was guessing that the business of raising purebred livestock would soon be a thing of the past.

Only time will tell. I doubt if artificial insemination will affect the number of purebred hogs raised—at least not in the near future.

There's a lot of talk about artificial insemination of swine these days and it's probably time to do a litle serious thinking about it.

First, what do we know about the technique? Well, there is more that we don't know about it than there is that we do know. Relatively little experimental work has been done with artificial insemination in swine, although considerable effort may be put forth on research in the next few years.

The following are a few facts concerning the present status of artificial insemination of swine.

1. It has been used as a tool or technique in swine experimentation.

2. It has been and is being tried in the field on a small commercial scale.

3. Conception rate and litter size have been satisfactory when enough semen was used and proper technique employed.

4. As yet there is no satisfactory way of storing boar semen for a long period of time. Untreated raw semen remains "alive" for only 5 or 6 hours. Present investigations suggest that a method or methods for satisfactory storage may be developed in the near future.

5. At the present time one ejaculate from a boar will provide semen for only about 5 to 10 matings.

6. Equipment for artificial insemination is rather simple and is available.

So you see there is relatively little known about the program for swine. If a comparison is to be made between hogs and dairy cattle, it is obvious that the hog offers several problems which have not been experienced in the artificial insemination of dairy cattle. Just to mention a few of the differences:

1. A large volume of fluid (¼ pint or more) is necessary for the insemination of swine.

2. Boar semen has a relatively low concentration of sperm and therefore probably cannot be diluted to any great extent.

3. Conception is not an all or none proposition, as it is in cattle; that is, litter size may be reduced to an uneconomical level if conditions are not correct. In other words, it might be better to have a sow not conceive than to have her farrow only 2 or 3 pigs.

Yes, and there are other problems involving the distribution of semen, the maintenance of boar studs, the detection of "heat" in the sow, etc.

Are these problems and unknown factors too great to overcome? What are the potential advantages of artificial insemination in swine?

It has some things to offer, namely:

1. The use of outstanding boars to a greater extent. Production tested sires could exert a greater influence on the swine populations. Highly heritable characters of type could be more rapidly improved. The "meat-type" goal could be reached more quickly.

2. Provision of economical mating service to the small swine producer. Farmers with six sows or less could probably buy semen in the "package" for less than they could buy a boar.

3. Reduction of disease in those communities where the boar makes a breeding circuit. In areas where the swine enterprise is small, one boar frequently is used on a half dozen farms and he often leaves a trail of contamination.

4. Control of disease within a herd. For example, swine brucellosis may be more quickly eradicated in a herd where artificial insemination is practiced. The boar is a noted spreader after he has naturally mated an infected female. Artificial breeding could make it possible to maintain "clean" sires and reduce the spread of disease from female to female.

There are other potential benefits, all of which should encourage research to find answers and determine the practicability of the technique. Progress and improvement is inevitable. If artificial insemination of swine will make the industry more efficient and more competitive, then it should be accepted.

At present, it would seem that artificial breeding would be most useful in purebred herds and in areas where commercial herds are small. The cost of the service will probably be too expensive for the commercial producer who has a fair-sized sow herd.

VETERINARY COLUMN

E. A. WOELFFER, D.V.M.

Don't underestimate water

People living in areas where the water supply is more than adequate seldom give it much thought or appreciate this great natural blessing. In some parts of the country the shortage of water is a rather frequent and serious matter.

Water is the main ingredient of all the tissues and organs of the body. Animals, like humans, can not get along without it for a very long period. It takes part in all the chemical changes occurring in the body cells. It is important in digestion, absorption, and in carrying food materials or nutrients to all parts of the body. It is equally important in elimination of waste.

Water also plays a major role in the regulation of body temperatures. Death results much sooner from a lack of water than from a lack of solid foods.

Heavy milkers require more . . .

The dairy cow in milk requires the largest amount of water in proportion to her size than any other farm animal. This is because water forms about 87 per cent of the milk produced. The amount of water needed depends on the size of the cow, the amount of milk produced, the temperature of the air, and the kind and quantity of feed that she eats.

Cows producing around 100 pounds of milk drink 300 pounds or more of water a day. The average daily water consumption for a herd will range from 100 pounds (12½ gallons) to 120 pounds (15 gallons).

Cows with ready access to water such as from individual bowls or cups produce more milk than when it is not conveniently available to them. In fact, studies show that cows that drink from automatic water supplies produce 3½ to 4 per cent more milk than cows that are watered twice a day and 6 to 11 per cent more than cows that are watered once a day.

Cows watered with bowls drink an average of about 10 times a day each 24 hours and about one-third of the total intake is consumed during the night. Whenever possible, supply fresh, clean, disease-free water to animals. Stagnant water often harbors disease germs.

Unsanitary water supplies can be a source of serious disease outbreaks. Cows often seek undesirable water supplies because individual drinking cups are out of order or are filled with fermented or decomposed feed and dirt. The water tank may be empty or the water is unfit to drink.

Failure to supply fresh, clean water when the animals desire it reduces the return from the more expensive feed and labor involved. Water may be the cheapest or the most expensive ingredient for maintaining healthy animals.

STERILE BULL?

I have a purebred Holstein bull 3½ years old that I have used up to January of this year.

As I will not be using him for about a year, is there any danger of him going sterile? He is kept in a pen 12 x 18 feet.

Maple, Wisconsin **E. M. P.**

There is no good reason why a year's rest should interfere with the fertility of your bull provided he is kept healthy and in good physical condition and not permitted to get too fat. It would be desirable to have an outside runway for exercise, and green grass when it is available.

LONG DRY PERIOD

I have three cows that aren't milking very good right now. They are due to freshen in five to six months.

Is it advisable to dry them up now and will they still be good when they freshen?

Campbell, Minnesota **D. C. T.**

If the cows can be dried up so there is no active infection (mastitis) present, there is no reason why they should not freshen satisfactorily in five or six months.

COW LEAKS MILK

I read in Hoard's Dairyman about two treatments for cows that leak milk.

Can treatments be made while the cow is in milk? Will it cause enough irritation to be dangerous because of mastitis?

I have a cow that will make over 500 pounds of butterfat as she is, but at times she will lose as much as 20 pounds of milk per day.

Also, I have a heifer calf that was born twin to a bull. I am fairly certain they were in two afterbirths. Is there any way to tell if this heifer will breed without waiting until breeding time?

Ozark, Missouri **J. P.**

Of the two treatments suggested, I prefer the use of Lugol's injections. If this treatment is properly done, there should be little risk involved. The injection should be made by your veterinarian. Sometimes the injections must be repeated. We injected a valuable cow on official test a few days ago with excellent results. She was a case similar to the one you describe.

Your veterinarian will be in a position to determine whether the female is a freemartin almost anytime after 1 week of age.

DEAD CALF

One of my cows dropped a dead calf about three months ago. I have been feeding 42 per cent dairy as a supplement to corn, oats, and molasses; also the best of alfalfa hay and grass silage, and exercise every day.

Can the dead calf be traced to the urea in the 42 per cent dairy supplement?

Newville, Pennsylvania **P. H.**

It is very unlikely that the abortion which occurred in your cow was due to the urea in the 42 per cent grain mixture. More likely some type of venereal infection or hormone deficiency was the cause.

Pasturgro . . . In The Fall

Gives new life to old pastures

Gives new seedings a fast start

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Double the value of your pastures with **Pasturgro**—the only plant food made especially for grass and grass-legume mixtures. Put your livestock on a higher income basis.

New seedings and established pastures both respond to **Pasturgro** . . . with faster growth, stronger roots, more nutritious feed.

Pasturgro is a new kind of plant food. An exclusive Swift process—called FLO-FUSION—packs each particle with fertility . . . assures a balanced diet for every square foot of pasture. **Pasturgro** contains extra growth elements which are needed by grass and legumes to make strong, deep-rooted growth.

Make **Pasturgro** your pasture plant food. You'll find, as thousands of others have, that nothing else grows grass like **Pasturgro**. Ask your Authorized Swift Dealer to show you a sample.

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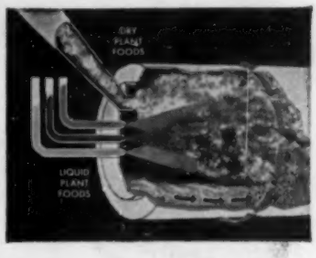
Swift's new FLO-FUSION process packs each particle of plant food with that extra yield-power.
High-quality liquid plant foods are injected into dry materials in a revolving FLO-FUSION processing chamber at Swift's Plants. Millions of individual chemical reactions convert raw materials into chemically-hitched plant food, drying the particles as they are formed. You get the benefit of this FLO-FUSION process only at Swift Plants throughout the nation.



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Here's the fastest, easiest, most economical way to destroy flies, lice, fleas, mites and other parasites in your barn or poultry house! A Johnson All-Purpose Air Compressor and *Insectospray* unit will do the job *automatically!* Just flip compressor switch and the *Insectospray* unit, with four-directional nozzle, sprays insecticide in a fog-like blanket that penetrates *everywhere*. Kills flies and insects in just 3 to 5 minutes! Protects cows even after they're turned out to pasture. *Uses only half as much insecticide as old-fashioned hand spraying, as proved by tests at a leading university.* Savings in insecticide costs actually pay for All-Purpose Compressor and *Insectospray* unit.

For Painting and Lubricating

Johnson All-Purpose Portable Air Compressors are guaranteed to deliver 100 lbs. pressure . . . just as much air at just as high pressures as most compressors 2 or 3 times their size! You get more than enough pressure to spray even heavy barn paints and machinery enamels. You get plenty of power to lubricate heavy farm machinery. A Johnson Compressor helps you keep your valuable equipment in top-notch operating condition.

For Blowing and Cleaning

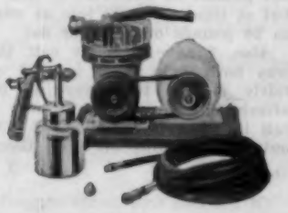
Johnson All-Purpose Compressors help you do a better job easier and faster, whether cleaning a chicken house or a combine! You can do dozens of chores with practically no effort with this modern do-it-yourself equipment.

For Inflating Tires or Pumping

Johnson Compressors inflate a 6.00 x 16 tire from 1 to 30 lbs. in 48 seconds! Only 3 minutes and 39 seconds to inflate a 7.50 x 20 tire from 0 to 55 lbs. For use as an emergency milker or vacuum pump, a Johnson compressor develops a vacuum of 24 inches of mercury.

16 POPULAR PRICED MODELS

Portable and Piston Types . . . Powered by Electricity, Gas Engine or Storage Battery.



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Packaged unit less motor. Complete with compressor, base, pulleys, V-belt, mounting hardware, 15 ft. airhose, blow gun, tire chuck, and paint spray gun.

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Piston Type. Furnished complete with ⅓ h.p. motor.

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A Few Choice Distributorships Available

CHECK THESE SUPERIOR FEATURES

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- ⅓ h.p., direct motor drive, with carrying handle and 8' electric cable.
- Delivers 3½ cubic feet per minute free air delivery.
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Compressor Division, Dept. HD-6, Milwaukee 1, Wisc.

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